

**Disposal and Reuse of  
Fleet and Industrial Supply Center, Oakland  
Vision 2000 Maritime Development**

**Final  
Environmental Impact Statement/  
Environmental Impact Report**

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**Volume II**

**July 1997**

**FLEET AND INDUSTRIAL SUPPLY CENTER, OAKLAND  
and  
PORT OF OAKLAND, CALIFORNIA**

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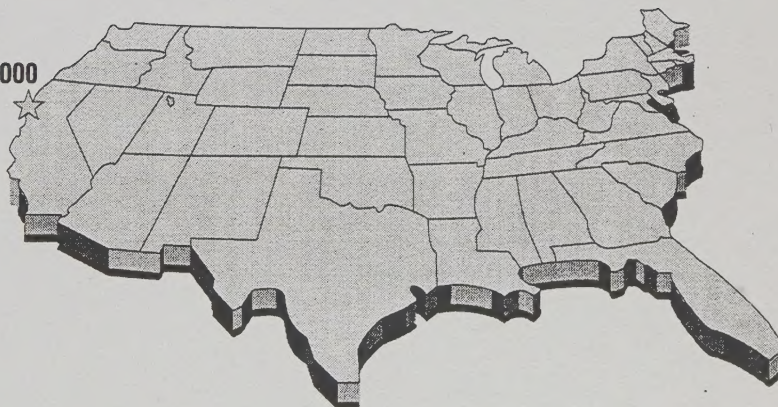
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## APPENDIX A VISUAL RESOURCES ON SITE



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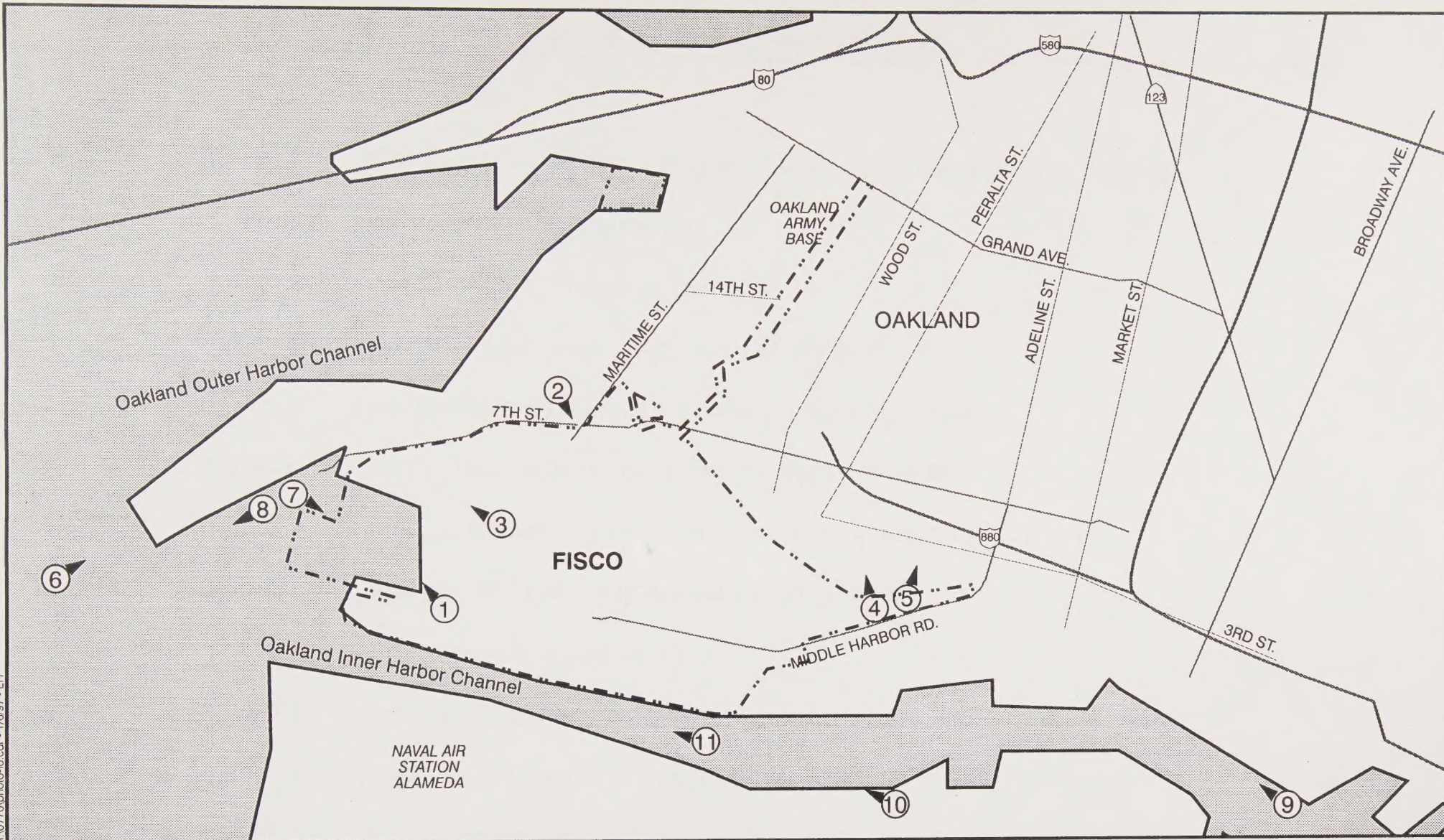
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## Photo-Location Map

Port of Oakland

- LEGEND:**
- ① Photopoint Locations
  - Project Site



Fleet & Industrial Supply Center Oakland  
and Port of Oakland

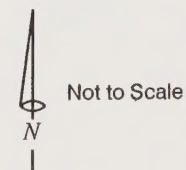


Figure A-1

Source: BCDC 1969; MTC 1996





1. USNS Mercy Berthed at FISCO's East Marginal Warf



2. FISCO Main Warehouse Area





3. FISCO Officer's Housing Area

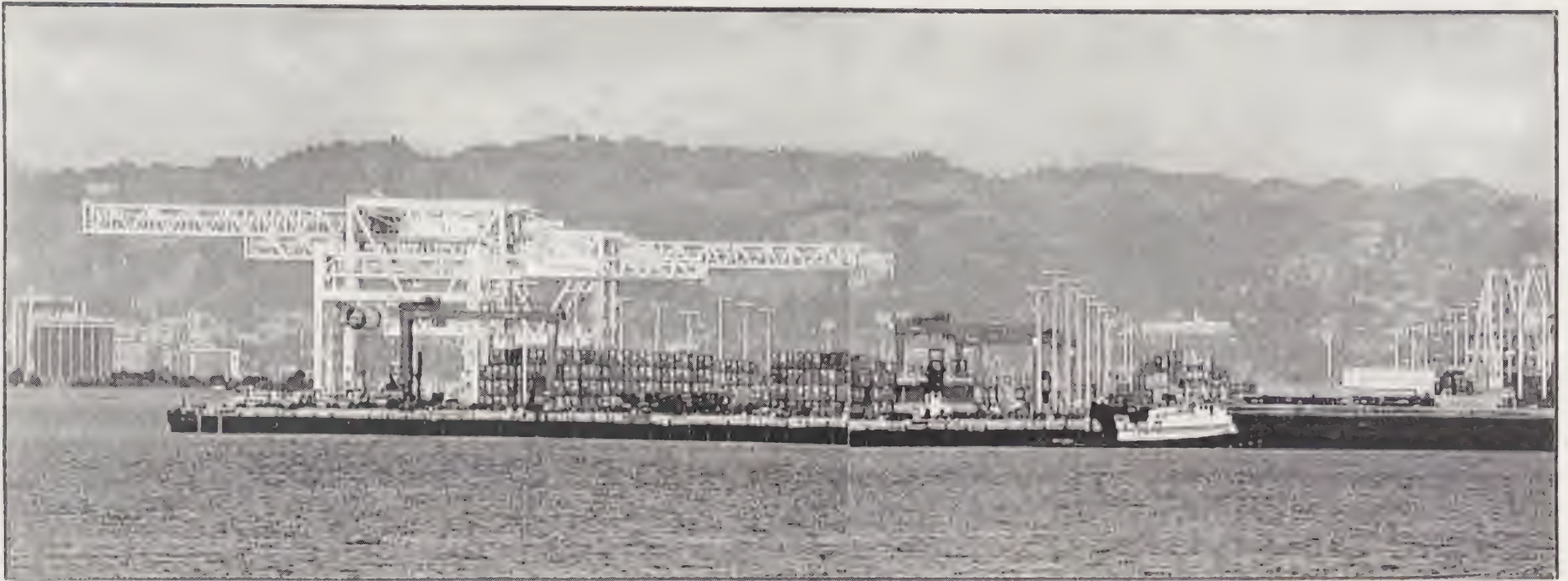


4. Older Buildings in the Southern Pacific Yard



5. Older Transmission Line Structures in the Southern Pacific Yard





6. Outer Harbor Marine Terminal



7. View from Port View Park Towards FISCO Wharves





8. View from Port View Park Towards San Francisco



9. View from Jack London Village



10. View from Alameda Shoreline



11. Panoromic View of San Francisco and Bay Bridge (seen from Oakland)



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## **APPENDIX B**

### **SPECIAL LEGISLATION RELATING TO FISCO**

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# Appendix B

## Special Legislation Relating to FISCO

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### B.1. DEFENSE BASE CLOSURE AND REALIGNMENT COMMISSION FINDINGS AND RECOMMENDATIONS

The Secretary of Defense, in compliance with Public Law 101-510, as amended, officially transmitted his recommendations for base closures and realignments to the Defense Base Closure and Realignment Commission on February 28, 1995. The Commission held 13 investigation hearings, conducted 206 fact-finding visits to 167 military installations and activities, held 16 regional hearings nationwide, listened to hundreds of Members of Congress, and received hundreds of thousands of letters from concerned citizens from across the country. By June 22, 1995, the Defense Base Closure and Realignment Commission had completed its review and analysis of the Secretary's recommendations, and began its final, two days of deliberations, all in public.

Information on the Commission's base closure and realignment decision for the Fleet and Industrial Supply Center, Oakland is presented below. The paragraph entitled "Secretary of Defense Recommendations" was taken verbatim from the *Department of Defense Base Closure and Realignment Report* dated March 1995. The paragraph entitled "Community Concerns" provide a brief summary of arguments presented to the Commission by local communities; they are not all-inclusive.

#### Fleet and Industrial Supply Center, Oakland, California

|                              |                                     |
|------------------------------|-------------------------------------|
| <b>Category:</b>             | Fleet and Industrial Supply Centers |
| <b>Mission:</b>              | Supply Support                      |
| <b>One-time Cost:</b>        | \$23.0 million                      |
| <b>Savings:</b>              | 1996-2001: \$29.7 million           |
| <b>Annual:</b>               | \$12.6 million                      |
| <b>Return on Investment:</b> | 1999 (Immediate)                    |
| <b>FINAL ACTION:</b>         | Close                               |

#### *Secretary of Defense Recommendation*

None. The Commission added this military installation to the list of bases to be considered by the Commission for closure or realignment as a proposed change to the list of recommendations submitted by the Secretary of Defense.

*Community Concerns*

FISC is located in three jurisdictions: Oakland, Alameda, and Richmond, California. Alameda and Richmond would like to have the land in their cities closed under base closure rules, which would expedite the land transfer. Initially, Oakland was concerned that any base closure action would prevent implementation of special legislation authorizing the Secretary of the Navy to sign long-term leases with the City of Oakland, the Port of Oakland, and the City of Alameda for \$1. The Port of Oakland and the Navy recently signed leases for two parcels of FISC land. The Port was originally concerned that closure of FISC as a BRAC action would delay their large port development plan. The Port recognized that closure would allow the Port to acquire the land and would not interfere or prevent ongoing lease negotiations.

*Commission Findings*

The Secretary of the Navy removed FISC Oakland from the list of recommendations presented to him because of excessive job losses in California. The Commission added FISC Oakland for consideration. The Commission found employment levels and workload at FISC decreasing as the bases it supported were closed. FISC's primary function would be to operate office space for Government tenants.

The Commission agreed with the Richmond and Alameda communities that the closure of FISC land in their communities would facilitate transfer to the land. To clarify that these were distinct parcels of land the Commission addressed these parcels in a separate closure motion. The Commission and the Oakland community ultimately agreed that the closure of the main FISC compound in Oakland would not interfere with their ongoing lease negotiations or previously signed leases, and would facilitate transfer of the property. The proposed closure actions received the endorsement of the Port of Oakland and the mayors of Oakland, Alameda, and Richmond. The Commission also found that additional savings would result if the two major tenants at FISC, Military Sealift Command and Defense Finance and Accounting Service, move to other Government-owned space.

*Commission Recommendation*

The Commission finds the Secretary of Defense deviated substantially from final criteria 5 and 6. Therefore, the Commission recommends the following: realign the Fleet and Industrial Supply Center, Oakland. Close Point Molate Naval Refueling Station, Richmond, California. Close Navy Supply Annex, Alameda, California. The Commission finds this recommendation is consistent with the force-structure plan and final criteria.

*Commission Recommendation II*

The Commission finds the Secretary of Defense deviated substantially from final criteria 5 and 6. Therefore, the Commission recommends the following: close the Fleet and Industrial Supply Center, Oakland. Relocate Defense Finance and Accounting Service and Military Sealift Command to Government-owned space. The Commission finds this recommendation is consistent with the force-structure plan and final criteria.

**B.2. P.L. 102-484 SEC. 2834 (OCTOBER 23, 1992)****SEC. 2834. LEASES OF PROPERTY, NAVAL SUPPLY CENTER, OAKLAND, CALIFORNIA.****(a) LEASE AUTHORIZED WITH UNION PACIFIC RAILROAD COMPANY—**

- (1) The Secretary of the Navy may lease to the Union Pacific Railroad Company (in this subsection referred to as the "Company") not more than 15 acres of real property, together with improvements thereon, located at the Naval Supply Center, Oakland, California.



- (2) The lease authorized in paragraph (1) shall—
  - (A) be for an initial period of not more than 25 years;
  - (B) contain an option for the Company to extend the lease for an additional period of not more than 25 years; and
  - (C) contain the restriction that the Company use the leased property only for freight transportation purposes.
- (3) (A) As consideration for the lease of the real property under paragraph (1), the Company—
  - (i) shall pay to the Navy the long-term fair market rental value of the leased property; and
  - (ii) may be required to furnish additional consideration as provided in subparagraph (B).
 (B) The Secretary may require that the lease include a provision for the Company—
  - (i) to pay the Navy an amount (as determined by the Secretary) for the costs of replacing at the Naval Supply Center, Oakland, California, the facilities vacated by the Navy on the leased property or to construct the replacement facilities for the Navy; and
  - (ii) to pay the Navy an amount (as so determined) for the costs of relocating Navy operations from the vacated facilities to the replacement facilities.
- (4) (A) Section 2667(d) of the title 20, United States Code, shall apply to amounts paid under paragraph (3)(A)(i).
 (B) The Secretary may use amounts received under paragraph (3)(B) to pay for constructing new facilities, or making modifications to existing facilities, that are necessary to replace facilities vacated by the Navy on the leased property and for relocating operations of the Navy from the vacated facilities to the replacement facilities.
- (5) The Secretary may authorize the Company to demolish existing facilities on the leased property and, consistent with the restriction required by paragraph (2)(C), construct new facilities on the property for the use of the Company.
  - (b) LEASE AUTHORIZED WITH CITY OR PORT OF OAKLAND—
    - (1) The Secretary of the Navy may lease to the City of Oakland, California, or the Port of Oakland, California (in this subsection referred to as the “City” and the “Port”, respectively), not more than 195 acres of real property, together with improvements thereon, located at the Naval Supply Center, Oakland, California.
    - (2) The lease authorized under paragraph (1) shall—
      - (A) be for a term of not more than 50 years; and
      - (B) shall contain the restriction that the City or the Port (as the case may be) use the leased property in a manner consistent with Navy operations conducted at the Naval Supply Center.
    - (3) (A) As consideration for the lease of the real property under paragraph (1), the City or the Port (as the case may be)—
      - (i) shall pay to the Navy the long-term fair market rental value of the leased property; and
      - (ii) may be required to furnish additional consideration as provided in subparagraph (B).
    - (B) The Secretary may require that the lease include a provision for the City or the Port (as the case may be)—
      - (i) to pay the Navy an amount (as determined by the Secretary) for the costs of replacing at the Naval Supply Center, Oakland, California, the facilities vacated by the Navy on the leased property or to construct the replacement facilities for the Navy; and
      - (ii) to pay the Navy an amount (as so determined) for the costs of relocating Navy operations from the vacated facilities to the replacement facilities.

- (4) The Secretary may not enter into the lease authorized by paragraph (1) until 21 days after the date on which the Secretary submits to the Committees on Armed Services of the Senate and House of Representatives a report containing an explanation of the terms of the proposed lease and a description of the consideration that the Secretary expects to receive under the lease.
- (5) (A) The Secretary may use amounts paid under paragraph (3)(A)(i) to pay for improvement, maintenance, repair, construction, or restoration activities at the Naval Supply Center, Oakland, California.
- (B) The Secretary may use amounts received under paragraph (3)(B) to pay for constructing new facilities, or making modifications to existing facilities, that are necessary to replace facilities vacated by the Navy on the leased property and for relocating operations of the Navy from the vacated facilities to the replacement facilities.
- (6) The Secretary may authorize the City or the Port (as the case may be) to demolish existing facilities on the leased property and, consistent with the restriction required by paragraph (2)(B), construct new facilities on the property for the use of the City or the Port.
- (c) ADDITIONAL TERMS.— The Secretary may require such additional terms and conditions in connection with the leases authorized under this section as the Secretary considers appropriate to protect the interests of the United States.
- (d) REPEAL OF SUPERSEDED AUTHORITY.— Section 2338 of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100-180; 101 Stat. 1225) is repealed.

### **B.3. P.L. 103-160 SEC. 2833 (NOVEMBER 30, 1993)**

#### **SEC. 2833. MODIFICATION OF LEASE AUTHORITY, NAVAL SUPPLY CENTER, OAKLAND, CALIFORNIA**

- (a) EXPANSION OF LEASE AUTHORITY.— Paragraph (1) of subsection (b) of section 2834 of the Military Construction Authorization Act for Fiscal Year 1993 (division B of Public Law 102-484; 106 Stat. 2614) is amended by striking out “not more than 195 acres of real property” and all that follows through the period and inserting in lieu thereof “those portions of the Naval Supply Center, Oakland, California, that the Secretary determines to be available for lease.”
- (b) CONSIDERATION.— Paragraph (2) of such subsection is amended—
  - (1) by striking out “and” at the end of subparagraph (A);
  - (2) by striking out the period at the end of subparagraph (B) and inserting in lieu thereof “; and”; and
  - (3) by adding at the end the following new subparagraph: “(C) be for nominal consideration.”
- (c) CONFORMING AMENDMENTS.— Such subsection is further amended—
  - (1) in paragraph (2)(B), by striking out “shall”;
  - (2) by striking out paragraphs (3), (4), and (5); and
  - (3) by redesigning paragraph (6) as paragraph (3).



**B.4. P.L. 103-337 SEC. 2821 (OCTOBER 5, 1994)****SEC. 2821. ADDITIONAL LESSEE OF PROPERTY AT NAVAL SUPPLY CENTER, OAKLAND, CALIFORNIA.**

Section 3834(b) the Military Construction Authorization Act for Fiscal Year 1993 (division B of Public Law 102-484; 106 Stat. 2614) is amended—

- (1) in paragraph (1)—
  - (A) by striking out “City” the second place it appears and inserting in lieu thereof “Cities”; and
  - (B) by inserting “the City of Alameda, California,” after “California,” the first place it appears; and
- (2) in paragraphs (2) and (3), by striking out “City” each place it appears and inserting in lieu thereof “Cities.”

**B.5. P.L. 104-106 SEC. 2867 (FEBRUARY 10, 1996)****SEC. 2867. LAND CONVEYANCE ALTERNATIVE TO EXISTING LEASE AUTHORITY, NAVAL SUPPLY CENTER, OAKLAND, CALIFORNIA**

Section 2834(b) of the Military Construction Authorization Act for Fiscal Year 1993 (division B of Public Law 102-484; 106 Stat. 2614), as amended by section 2833 of the Military Construction Authorization Act for Fiscal Year 1994 (division B of Public Law 103-160; 107 Stat. 1896) and section 2821 of the Military Construction Authorization Act for Fiscal Year 1995 (division B of Public Law 103-337; 108 Stat. 3057), is further amended by adding at the end the following new paragraphs:

- “(4) In lieu of entering into a lease under paragraph (1), or in place of an existing lease under that paragraph, the Secretary may convey, without consideration, the property described in that paragraph to the City of Oakland, California, the Port of Oakland, California, the City of Alameda, California, or the City of Richmond, California, under such terms and conditions as the Secretary considers appropriate.
- “(5) The exact acreage and legal description of any property conveyed under paragraph (4) shall be determined by a survey satisfactory to the Secretary. The cost of each survey shall be borne by the recipient of the property.”

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APPENDIX C  
FINAL SECTION 4(f) EVALUATION/  
BCDC BAY PLAN POLICIES

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# Appendix C

## Final Section 4(f) Evaluation/ BCDC Bay Plan Policies

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### C.1 FINAL SECTION 4(F) EVALUATION

#### INTRODUCTION

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C. 303, declares that “[i]t is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

Section 4(f) specifies that “[t]he Secretary of [Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area refuge, or site) only if:

- (1) there is no prudent and feasible alternative to using that land; and
- (2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

In general, a section 4(f) “use” occurs with a Department of Transportation-approved project or program when (1) section 4(f) land is permanently incorporated into a transportation facility; (2) when there is a temporary occupancy of section 4(f) land that is adverse in terms of the section 4(f) preservationist purposes as determined by specified criteria (23 CFR 771.135 [p] [7]); and (3) when section 4(f) land is not incorporated into the transportation project, but the project’s proximity impacts are so severe that the protected

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# Appendix C

## Final Section 4(f) Evaluation/ BCDC Bay Plan Policies

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### C.1 FINAL SECTION 4(F) EVALUATION

#### INTRODUCTION

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C. 303, declares that “[i]t is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

Section 4(f) specifies that “[t]he Secretary of [Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area refuge, or site) only if:

- (1) there is no prudent and feasible alternative to using that land; and
- (2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

In general, a section 4(f) “use” occurs with a Department of Transportation-approved project or program when (1) section 4(f) land is permanently incorporated into a transportation facility; (2) when there is a temporary occupancy of section 4(f) land that is adverse in terms of the section 4(f) preservationist purposes as determined by specified criteria (23 CFR 771.135 [p] [7]); and (3) when section 4(f) land is not incorporated into the transportation project, but the project’s proximity impacts are so severe that the protected

activities, features, or attributes that qualify a resource for protection under section 4(f) are substantially impaired (constructive use).

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs that use lands protected by section 4(f).

The FHWA will use this section 4(f) evaluation in their decision-making process for granting Intermodal Surface Transportation Efficiency Act (ISTEA) project funding for the Port's Vision 2000 Program for constructing a joint intermodal terminal (JIT). The FHWA and the Port have consulted with the public agencies having jurisdiction over the 4(f) resources in the project area during the assessment of impacts and the development of measures to minimize harm.

### PROPOSED ACTION

In response to the recognized need to increase capacity and to improve efficiency of integrated intermodal cargo transportation services, the Port of Oakland has developed the Vision 2000 Program. This program is a schedule of phased improvements and development projects to modernize and expand the Port's facilities. The Vision 2000 Program involves reuse and development of the US Navy's Fleet and Industrial Supply Center Oakland (FISCO), formerly known as the Naval Supply Center, located in West Oakland, as well as 290 acres beyond the FISCO property boundaries.

Chapter 1, Purpose and Need, Section 1.3, pages 1-3 and 1-6 in Volume I of this EIS/EIR explains the applicable conditions affecting ownership of the FISCO property. In summary, as a result of this project, a portion of FISCO may be conveyed in fee to the Port through special legislation, allowing the Secretary of the Navy to convey the nonreversionary portion of FISCO to the Port. The remainder of FISCO may be conveyed by a reversionary clause in the deed of trust for FISCO. Pending final closure of FISCO, the Port is leasing portions of FISCO from the Navy. Chapter 2, Section 2.2.5, pages 2-10 and 2-12, describes the various geographic components that comprise the Port's Vision 2000 Program.

The Vision 2000 Program consists of three common elements: JIT, marine terminals, and public waterfront access and marine habitat enhancement (see Chapter 2, Section 2.2.3, Common Elements of Port Reuse Alternatives, pages 2-5 and 2-6 in Volume I). The environmental consequences associated with full buildout of all three Vision 2000 elements by 2010 are evaluated in Chapter 5 of Volume I.

The following four Vision 2000 Program alternatives are evaluated in Volume I:

- Maximum Marine/Maximum Rail;



- Minimum Marine/Minimum Rail;
- Maximum Marine/Minimum Rail; and
- Reduced Harbor Fill (Preferred Alternative).

These four alternatives represent variations on the design and configuration of the Vision 2000 Program components, including the JIT. Table 2-3 in Volume I of this EIS/EIR provides an overview of facilities and other operations features of the four JIT alternatives. These four alternatives were configured to represent a range of potential impacts to different resources. For example, rail track storage on the Oakland Army Base property is included for only one of the four alternatives. Similarly, although both the Maximum Marine/Maximum Rail and Reduced Harbor Fill Alternatives would serve both Southern Pacific/Union Pacific and Burlington Northern-Santa Fe railroads, the Reduced Harbor Fill Alternative is configured in a manner that avoids impacts to one of the historic districts in the project area.

A detailed discussion of the reasons why the four Vision 2000 Program alternatives were selected is described in Chapter 2, Alternatives, Including the Proposed Action, Section 2.2.2, pages 2-3 and 2-5 in Volume I of this EIS/EIR. The maximum JIT footprints proposed under these four alternatives are presented on Figures C-1, C-2, C-3, and C-4. The Port's preferred alternative is the Reduced Harbor Fill Alternative.

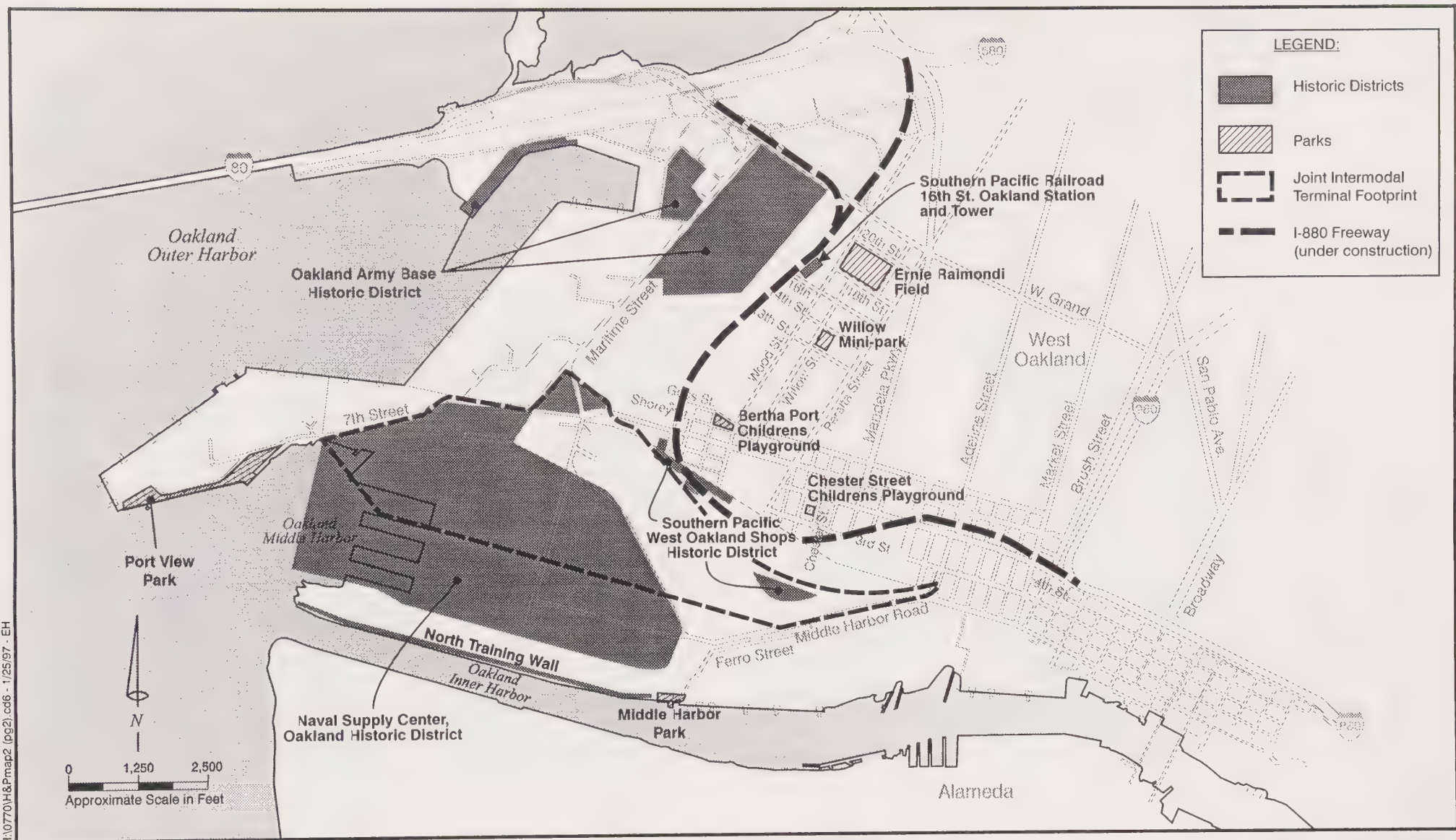
The purpose of the JIT is to expand and improve the existing intermodal operations of the Southern Pacific and Union Pacific Railroads in Oakland, California, and to provide access for the international segment of the Burlington Northern-Santa Fe Railroad business currently handled in Richmond, California, approximately 17.7 km (11 miles) north of the Port area. All three Vision 2000 elements are separate and independent of one another. Therefore, because the JIT would provide efficient rail access to existing Port terminals in the Oakland Inner and Outer Harbors, its successful implementation does not depend on construction and operation of the new marine terminals proposed as part of the Vision 2000 Program.

The Metropolitan Transportation Commission (MTC) has authorized ISTEA funding for the JIT. To prepare the property after acquisition, a large number of structures must be demolished, utilities relocated and constructed, grading undertaken, and several roadways constructed. The MTC has authorized funds placed in the State Transportation Improvement Program (TIP) through ISTEA for seven million dollars for JIT construction.

#### SECTION 4(F) PROPERTY

The only section 4(f) resource used by the preferred Reduced Harbor Fill Alternative is the Naval Supply Center, Oakland (NSCO) Historic District.

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## Section 4(f) Parklands and Historic Resources Maximum Marine/Maximum Rail Alternative

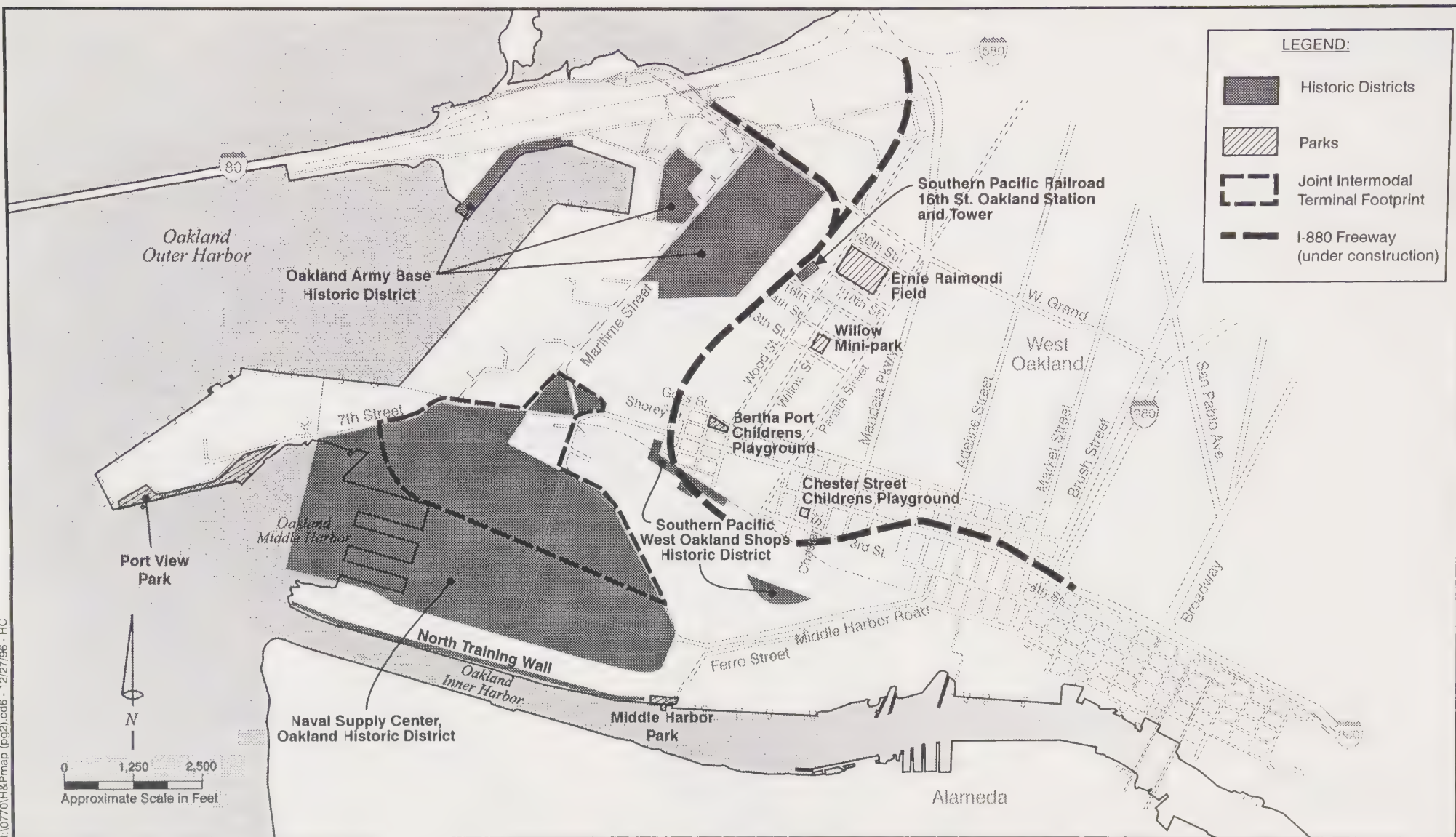
Source: Port of Oakland 1996

Fleet & Industrial Supply Center Oakland  
and Port of Oakland

Figure C-1







## Section 4(f) Parklands and Historic Resources Minimum Marine/Minimum Rail Alternative

Source: Port of Oakland 1996

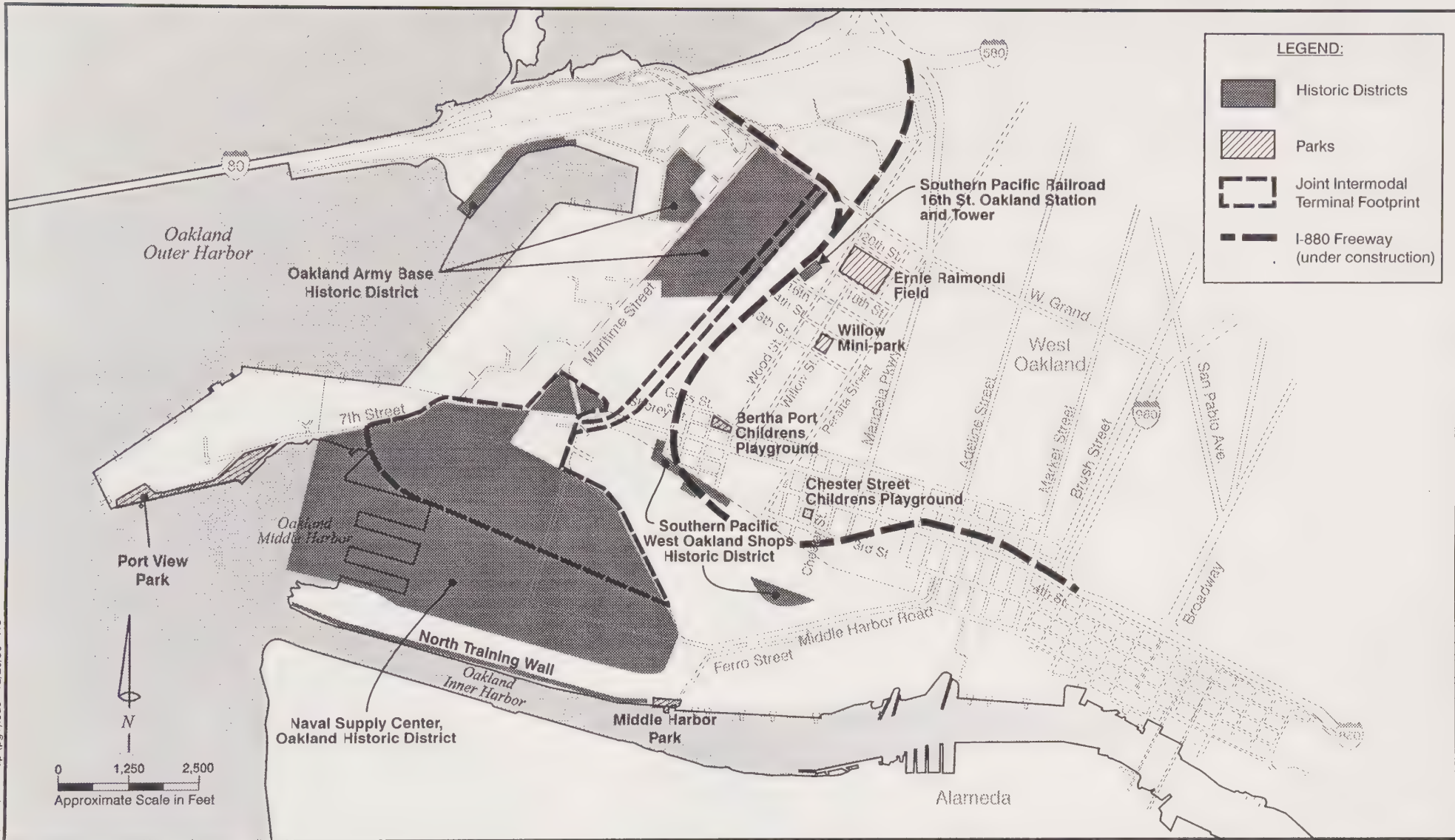
Fleet & Industrial Supply Center Oakland  
and Port of Oakland

Figure C-2





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## Section 4(f) Parklands and Historic Resources Maximum Marine/Minimum Rail Alternative

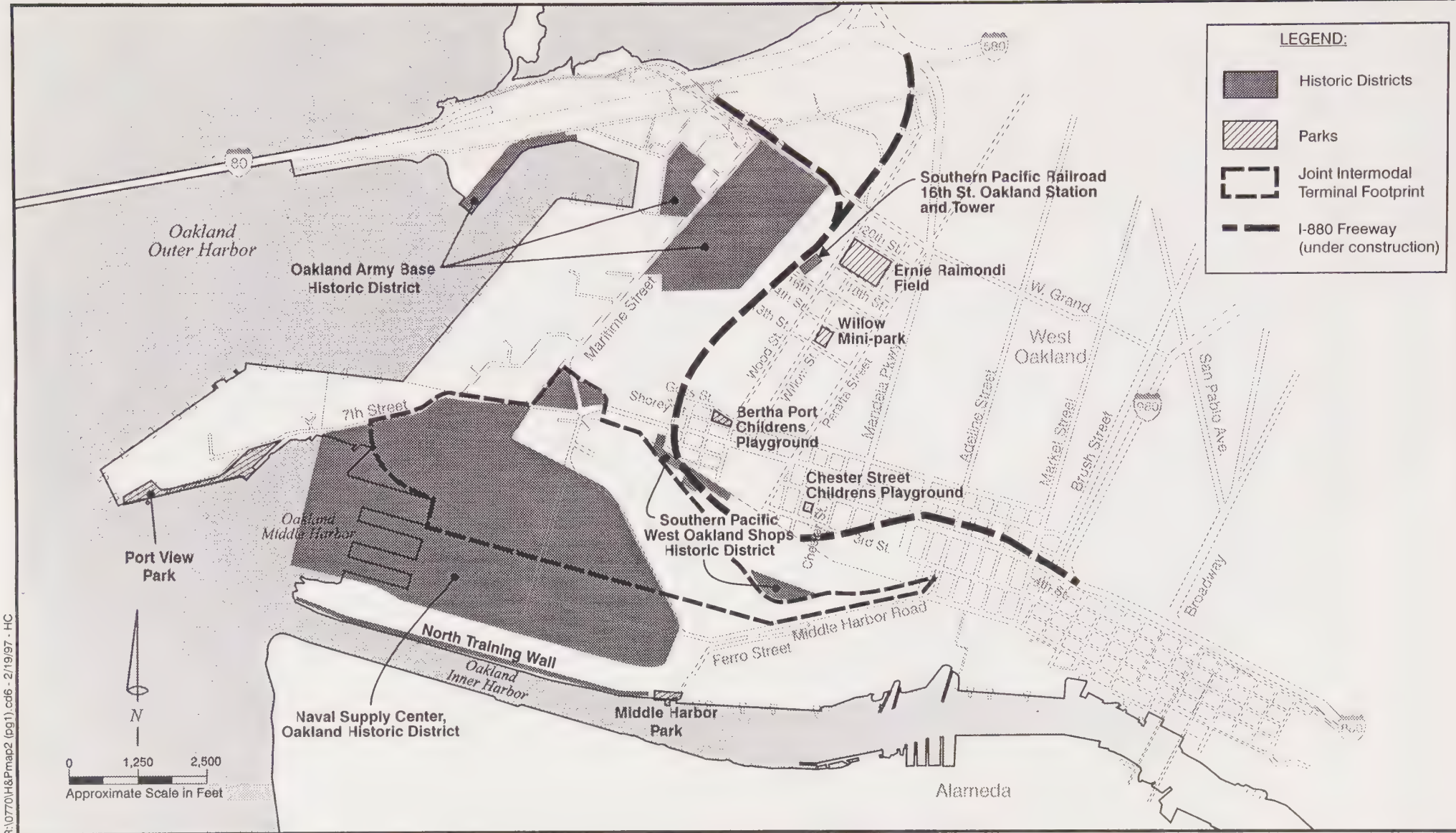
Source: Port of Oakland 1996

Fleet & Industrial Supply Center Oakland  
and Port of Oakland

Figure C-3

Port of Oakland





## Section 4(f) Parklands and Historic Resources Reduced Harbor Fill Alternative

Source: Port of Oakland 1996

Fleet & Industrial Supply Center Oakland  
and Port of Oakland

Figure C-4





However, the descriptions of other section 4(f) properties that would be used by the other reuse alternatives are included in the following section for information.

There are three historic districts in the project area that are eligible for the National Register of Historic Places (NRHP): the NSCO, Oakland Army Base, and Southern Pacific West Oakland Shops Historic Districts (see Figures C-1, C-2, C-3, and C-4). In 1990, the State Historic Preservation Officer (SHPO) concurred that these three districts are eligible for the NRHP (see Section 3.4 in Volume 1). However, documentation has been undertaken to demonstrate that the Southern Pacific West Oakland Shops Historic District is no longer eligible for inclusion in the NRHP.

There are no known prehistoric or historic archaeological sites identified on FISCO property or in the project area. Because of past dredging and filling, the probability of encountering any subsurface archaeological resources on FISCO or in the project vicinity is very low.

#### ***Naval Supply Center, Oakland Historic District***

The NSCO is owned by the US Navy and is approximately 214 ha (528 acres). The NSCO is located in West Oakland, approximately 3.2 km (two miles) west of the Oakland central business district, on the eastern shoreline of San Francisco Bay. The boundaries of this historic district are shown on Figures C-1, C-2, C-3, and C-4.

The Navy constructed NSCO in 1940 to provide logistical support for military activities in the Pacific region during World War II. Land use at FISCO has been characterized by extensive military support facilities, including warehouses, office buildings, some military housing, and the Middle Harbor berths and wharf area. Approximately 89.1 ha (220 acres) of the FISCO property are leased to the Port of Oakland for use as general transportation support activities, including warehousing, container depot activities, loading, and container cargo stations.

In 1990, the NSCO Historic District included 84 buildings and structures that contributed to the significance of the historic district and 42 noncontributing buildings and structures within the mapped boundaries. The list of contributing buildings and structures that existed at FISCO in 1990 are identified in Table 3-6, Section 3.4, page 3-32 in Volume I of this EIS/EIR.

Access to the NSCO Historic District is via two gates. Gate 1 is at the northern end of the historic district. From Gate 1, a bridge structure carries traffic across 7th Street to an at-grade intersection with 3rd Street. Gate 2 is at the eastern end of the historic district off of Middle Harbor Road and provides access to a perimeter road that runs roughly parallel to Middle Harbor Road for approximately one mile.

In 1996, approximately 2,600 Navy personnel were employed at the NSCO Historic District. An additional 400 employees that represent tenants of the Port



work at the Harbor Transportation Center, located in the eastern half of the site on property leased by the Port.

### ***Oakland Army Base Historic District***

The Oakland Army Base Historic District is owned by the US Army. The northwest and northeast sections of this historic district are approximately 6.3 ha (15.5) and 15.9 ha (39.5 acres), respectively. The northwest section is comprised of two discontinuous segments; the first segment (4.05 ha [10 acres]) is at the northern edge of the Oakland Outer Harbor, and the second segment is west of Maritime Street and south of Alaska Street. The northeast section of this historic district is between Maritime Street and the Southern Pacific Desert Yard south of West Grand Avenue. The boundaries for the Oakland Army Base Historic District are shown on Figures C-1, C-2, C-3, and C-4.

Twenty-four buildings and structures at the Oakland Army Base have been determined eligible for listing in the NRHP these are identified by building number in Table 3-7, Section 3.4, page 3-35 in Volume I of this EIS/EIR. The contributing buildings in the first segment of the northwest section are made up of three wharves and a shed, while the contributing buildings in the second segment are primarily storehouses and administrative buildings. Contributing buildings in the northeast section are primarily large warehouses and a switch engine building at the Knight Yard.

The main access to the Oakland Army Base Historic District is Maritime Street. Access to the wharves in the northwest section of the base is via Burma Road off Maritime Street. There are 19 active Department of Defense or federal agencies as tenants and five nonmilitary agency tenants on the Oakland Army Base as of July 5, 1996.

### ***Southern Pacific West Oakland Shops Historic District***

The Southern Pacific West Oakland Shops Historic District is owned by the Southern Pacific Railroad. This historic district includes two separate segments within the larger Southern Pacific West Oakland Railyard. The northern segment, approximately one ha (2.5 acres), is at the northern extreme of the Southern Pacific Railyard, from west of Bay Street to east of Wood Street. The southern segment, approximately 1.4 ha (3.5 acres), is separated from the northern segment by a bank of railroad tracks.

This historic district includes 14 buildings, 12 of which were identified as contributors, eight in the northern segment near Wood Street and four in the southern segment. The eligible buildings within this district are listed in Table 3-8, Section 3.4, on page 3-37 in Volume I of this EIS/EIR. These buildings include a telephone exchange, electrical shop, signal tower, lumber shed, freight depot, and mill.

Caltrans and Southern Pacific Railroad as part of the Cypress Freeway reconstruction in the early 1990s demolished four buildings within the northern segment of this historic district. A 1991 MOA between the Federal Highway Administration, Department of the Army, SHPO, and the Advisory Council on Historic Preservation (ACHP) called for recordation of these four buildings to the standards of the Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) prior to demolition, as well as attempts to market the buildings for relocation off-site. The marketing attempts were unsuccessful and the buildings were recorded and demolished. The four demolished buildings were located in the northern segment near Wood Street; this demolition removed half of the contributing buildings in that area.

Subsequent to these demolition activities, there was no determination if whether the integrity of the original historic district remained. Documentation has been undertaken to demonstrate that the qualities and characteristics that originally rendered this property a historic district were destroyed when the “core” district (i.e., buildings in the northern segment) were demolished; therefore, the remaining ancillary buildings in the southern segment of this district would no longer be eligible for inclusion in the NRHP. The Port is submitting documentation to the SHPO requesting concurrence that the Southern Pacific West Oakland Shops Historic District is no longer eligible for listing on the NRHP.

#### **IMPACTS ON SECTION 4(F) PROPERTIES**

The only section 4(f) resource used by the preferred Reduced Harbor Fill Alternative is the NSCO Historic District. However, the impacts on other section 4(f) properties that would be used by the other reuse alternatives are included in the following section for information.

All four project alternatives would involve further demolition of the NSCO Historic District. The Reduced Harbor Fill Alternative, the Preferred Alternative, would only have a direct impact on the NSCO District. The Maximum Marine/Minimum Rail Alternative would result in demolition in a portion of the Oakland Army Base Historic District and the Maximum Marine/Maximum Rail Alternative would result in demolition in a portion of the Southern Pacific West Oakland Shops Historic District.

##### ***NSCO Historic District***

All four project alternatives would adversely effect the NRHP-eligible NSCO Historic District because an undertaking is considered to have an adverse impact when the effect on a historic property may diminish the integrity of that resource. The transfer, lease, or sale of a property from federal ownership without adequate restrictions or deed covenants to ensure preservation would be an adverse effect. This impact would apply to all FISCO contributing buildings and structures within the NRHP-eligible NSCO Historic District.

Under any of the four project alternatives, the Port would demolish all or nearly all contributing buildings within the NSCO Historic District. All historic buildings would be demolished under the Preferred Alternative. This demolition will complete a program that began in 1994, through which much of the NSCO Historic District would be demolished to make way for expansion of the Port.

In 1994, the Navy, the Port, the SHPO, and the ACHP executed a Memorandum of Agreement (MOA) pertaining to leasing up to approximately 89 ha (220 acres) of the 214-ha (528-acre) FISCO to the Port. The MOA accepted demolition of any buildings within 77 ha (190 acres) of the 89-ha (220-acre) existing lease area (see Appendix G in EIS/EIR Volume II, Exhibit 1).

The MOA called for mitigation measures, including recording selected buildings to HABS standards, preparing a Historic and Archeological Resources Protection (HARP) plan for the remainder of the base, and other mitigation measures. Some of these measures were implemented. Other measures, however, were interrupted by the decision in 1995 to close the base. The demolition accepted under the 1994 MOA will effectively destroy much of the NSCO Historic District by demolishing 39 of the 84 contributing buildings.

Under all four project alternatives, JIT construction would demolish most if not all of the remaining contributing buildings and would result in an adverse effect and a substantial adverse change to this historic property. However, as part of an April 1997 amended Memorandum of Agreement (MOA) for protecting historic resources at the NSCO Historic District, three existing officers quarters will be available for moving off-site. These quarters could also be relocated adjacent to and west of the JIT in a proposed public access area around the Oakland Middle Harbor under the Maximum Marine/Maximum Rail and Maximum Marine/Minimum Rail Alternatives (see Figures 2-4 and 2-8 in Chapter 2, Volume I).

#### ***Oakland Army Base Historic District***

The Preferred Alternative would not have an adverse effect on the Oakland Army Base Historic District. Only the Maximum Marine/Minimum Rail Alternative would result in a direct use and adverse effect to the Oakland Army Base Historic District in two respects. First, it would expand the proposed rail terminal into the Oakland Army Base Knight Yard, a contributing element of the district. Second, it would demolish or modify a number of on-site buildings. Demolition would occur in the northeast section of the historic district. Plans do not allow for precise identification of the number of contributing buildings that could be demolished, but it appears that up to seven large warehouse buildings could be demolished under this scenario. Other non-historic buildings may be demolished as well. Therefore, the Maximum Marine/Minimum Rail Alternative would result in an adverse effect and a substantial adverse change to this historic property. The other three JIT alternatives would not have a direct use of the Oakland Army Base.



### *Access*

Access to the Oakland Army Base Historic District would not be substantially affected by JIT operations. According to the Vision 2000 traffic analysis, level of service at intersections in the vicinity of the Oakland Army Base (Maritime/Burma, Maritime/West Grand, and Maritime/14th) would not be adversely affected as a result of the project under any of the four reuse alternatives (of which the JIT represents only a fraction of total development). Therefore, access to this historic district would not be substantially restricted (see Tables 5-7 and 5-8 on pages 5-55 and 5-56, Tables 5-13 and 5-14 on pages 5-93 and 5-94, Tables 5-15 and 5-16 on pages 5-115 and 5-116, and Tables 5-17 and 5-18 on pages 5-137 and 5-138 in Volume I). Measures will be implemented to control traffic during JIT construction (see Measures to Minimize Harm).

### *Noise*

The Oakland Army Base Historic District is not a noise-sensitive area and is subject to high ambient noise levels from existing rail operations in the Oakland Army Base Knight Yard and adjacent Southern Pacific Desert Yard and nearby truck traffic. Therefore, future JIT-induced noise under any of the four alternatives is not anticipated to substantially impair the use or enjoyment of this district. Construction noise would be temporary in duration and would similarly not adversely effect public enjoyment of this 4(f) resource.

### *Air Quality*

As described above, future carbon monoxide emissions would fall within the range of what has been historically recorded in the project area and would not substantially impair the use or enjoyment of the Oakland Army Base Historic District. In addition, projected increases in ozone precursor emissions under all four reuse alternatives would not restrict use or enjoyment of this district because it is located in an area already characterized by degraded air quality.

All four project alternatives would require demolishing existing FISCO structures; this activity would be a temporary source of fugitive dust and construction vehicle emissions. However, when properly controlled through best management practices, dust emissions would not substantially impair the use or enjoyment of the Oakland Army Base Historic District because it is located more than one-half mile from FISCO, where major demolition activities would occur.

### *Visual*

Visual resources were qualitatively evaluated by assessing the nature and extent of change in existing landscape character. Demolishing buildings and multi-story warehouses in the NSCO Historic District under all four project alternatives would have a long-term visual change to users at the Oakland Army Base Historic District. Demolition would remove existing historic buildings and would create more expansive viewing opportunities to the west/southwest towards the Oakland Middle Harbor (which will be developed for public access and marine habitat enhancement under the Vision 2000 Program). Short-term building

demolition activities may result in temporary visual impacts; however, given the industrial nature of the existing FISCO site and surrounding project area, any visual intrusion would not interfere substantially with use of nearby 4(f) resources.

Under the Maximum Marine/Minimum Rail Alternative, proposed railcar storage on the Oakland Army Base Knight Yard would not have a noticeable or intrusive visual effect because the Knight Yard and adjacent Southern Pacific Desert Yard provide similar uses.

#### *Wildlife, Vegetation, and Water Quality*

The Oakland Army Base Historic District is located in a disturbed, developed area that support limited wildlife, vegetation, and water resources. These resources are not important factors at this historic district.

#### ***Southern Pacific West Oakland Shops Historic District***

The Preferred Alternative would not have an adverse effect on the Southern Pacific West Oakland Shops Historic District. Only the Maximum Marine/Maximum Rail Alternative would result in a direct use and adverse effect to four buildings in the Southern Pacific West Oakland Shops Historic District. Demolition of the four buildings would occur in the southern subdistrict of this historic district. Reassessing the eligibility of this historic district for listing in the National Register is ongoing. The Port is submitting documentation to the SHPO requesting concurrence that the Southern Pacific West Oakland Shops Historic District is no longer eligible for listing on the NRHP. The other three JIT alternatives would not have a direct use of the Southern Pacific West Oakland Shops Historic District.

#### *Access*

The Southern Pacific West Oakland Shops Historic District is currently not accessible to the public. Similar to what is described for the Oakland Army Base, private access to this historic district would not be substantially restricted during JIT operations. During JIT construction, access could be temporarily affected by increased truck traffic along Middle Harbor Road. However, measures outlined under Measures to Minimize Harm would be undertaken to preserve access to this 4(f) resource during construction.

#### *Noise*

The Southern Pacific West Oakland Shops Historic District is not a noise-sensitive area and is subject to high noise levels from existing rail operations in the Southern Pacific Rail Yard. Therefore, future JIT-induced noise is not anticipated to substantially impair the use or enjoyment of this district.

#### *Air Quality*

As described above, future carbon monoxide emissions during JIT operations would fall within the range of what has been historically recorded in the project

area and would not substantially impair the use or enjoyment of this district. Furthermore, ozone precursor emissions under all four JIT alternatives would not adversely effect this district because it is located in an area already characterized by degraded air quality. Dust emissions during buildings demolition activities would be properly controlled by best management practices.

#### *Visual*

The buildings in the southern segment of this historic district are located in an existing heavily industrial area and subsequent JIT development would not impair or degrade the visual integrity of this historic district.

#### *Wildlife, Vegetation, and Water Quality*

The Southern Pacific West Oakland Shops Historic District is located in a disturbed, developed area that supports limited wildlife, vegetation, and water resources. These resources are not important factors in this historic district.

### **ALTERNATIVES**

The first step under section 4(f) is to determine which alternatives are feasible and prudent. An alternative may be rejected as not being feasible and prudent for any of the following reasons:

- Not meeting the project purpose and need;
- Excessive cost of construction;
- Severe operational or safety problems;
- Unacceptable adverse social, economic, or environmental impacts;
- Serious community disruption; or
- An accumulation of a lesser magnitude of the foregoing types of factors.

Harm to a section 4(f) resource should not be included in those factors which are considered in determining whether an alternative is feasible and prudent. When sufficient analysis has been completed to demonstrate that a particular alternative is not feasible and prudent, no additional analysis or consideration of that alternative is required.

After eliminating the alternatives that are not feasible and prudent, a determination must be made on whether one or more of the remaining alternatives avoids the use of land from section 4(f) resources. If such avoidance alternatives exist, one of them must be selected. However, if all of the remaining feasible and prudent alternatives use land from section 4(f) resources, then a least harm analysis must be performed to determine which alternative does the least



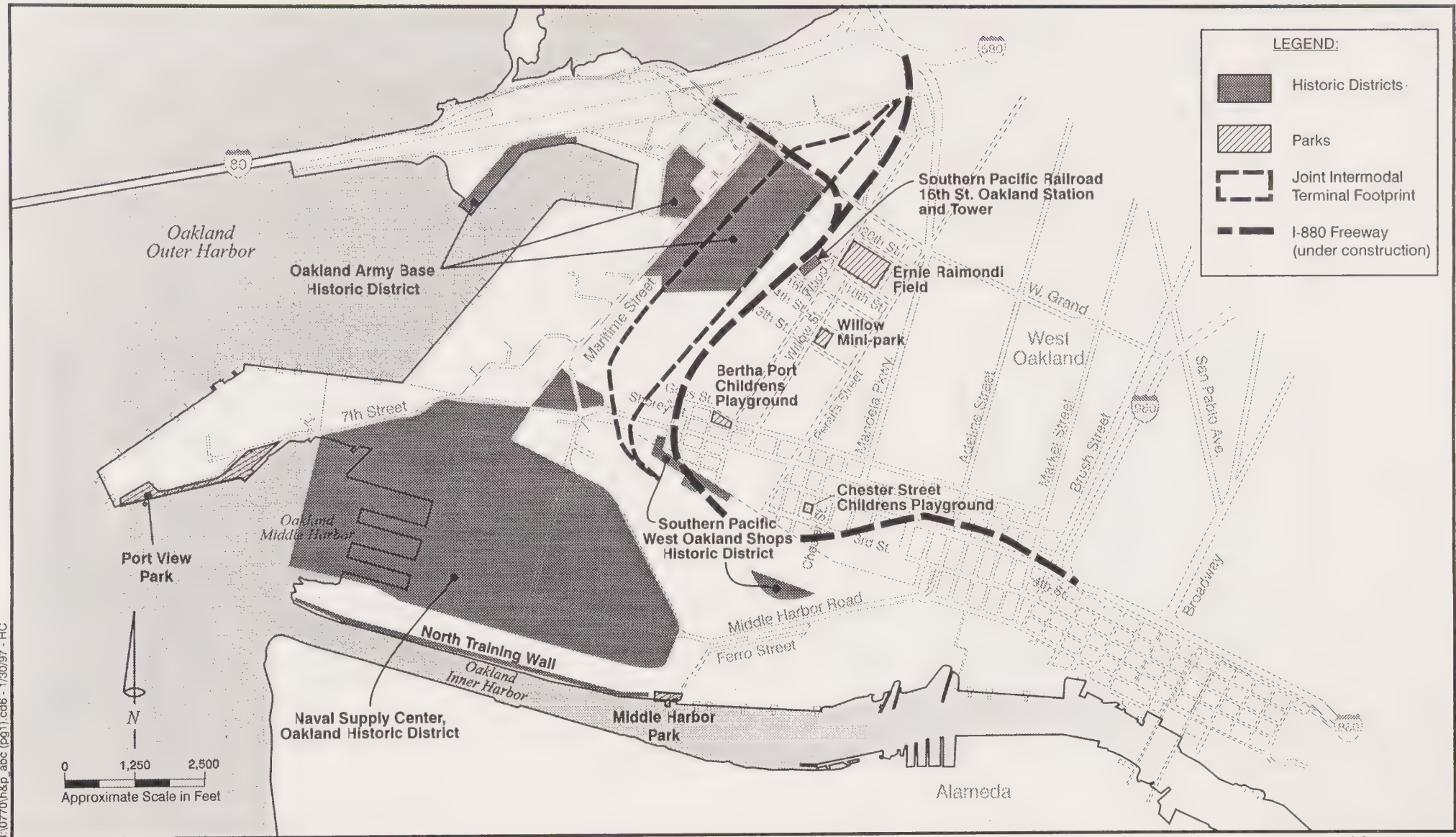
overall harm to section 4(f) resources. Where there is little or no difference in the overall harm to the section 4(f) resources, any of the alternatives may be selected.

FISCO is within the Port jurisdiction and is designated as a port priority use area in the April 1996 San Francisco BCDC and MTC Seaport Plan Update. Port priority use areas include marine terminals and directly related ancillary activities, such as container freight stations, as well as support transportation uses, including trucking and railroad yards. The location of the four Vision 2000 project alternatives evaluated in this EIS/EIR was based largely on the requirements for efficient maritime cargo transportation operations, including providing for enhanced joint intermodal rail terminal capability. This issue is further discussed in Volume I, Chapter 2, pages 2-3 and 2-5 of this EIS/EIR. Developing a JIT consistent with the Seaport Plan Update's port priority use designation restricts the range of alternatives that are feasible for evaluation. The FISCO site provides the most readily available and underused acreage of significant size in the Port area for developing the JIT.

In considering alternatives that do not use the FISCO property, the Port identified the eastern portion of the Oakland Army Base, located north of FISCO, referred to as Footprint Alternative A (Figure C-5). Approximately 200 acres in the eastern half of the Army base, along the western edge of the Southern Pacific's Desert Yard, extending from 7th Street north to the I-80/I-580 distribution structure, initially were considered as a potential location for the JIT. This location would provide good rail access and would leave all of FISCO available for marine terminal development. However, Footprint Alternative A was determined to be infeasible as an alternative site because the base is not within the Port's jurisdiction and the proposed rail terminal footprint would not meet the project's optimum engineering criteria. For example, this site would be too small and too short to accommodate expected train volumes and track lengths. In addition, the Grand Avenue viaduct would bisect the terminal footprint and, therefore, would cause potential overhead clearance problems.

The Port evaluated two additional JIT footprints on FISCO and Southern Pacific Railyard property during preliminary JIT studies. Footprint Alternative B encompasses Southern Pacific's entire existing intermodal facility plus the eastern portion of FISCO (Figure C-6). This footprint would leave most of FISCO available for marine terminal use. This alternative would have good mainline rail access, but it lacked loading tracks of sufficient length. The loading track curvature within the facility would not meet Southern Pacific and Union Pacific requirements and the facility size would be too small to handle optimum JIT volumes.

Footprint Alternative C consists of a strip of tracks running east-west and covering the Southern Pacific's intermodal facility and the center of the FISCO property (Figure C-7). This footprint would allow design of a "single-ended" facility that maximizes track lengths and minimizes track curvature. However,



# **Section 4(f) Parklands and Historic Resources JIT Footprint A**

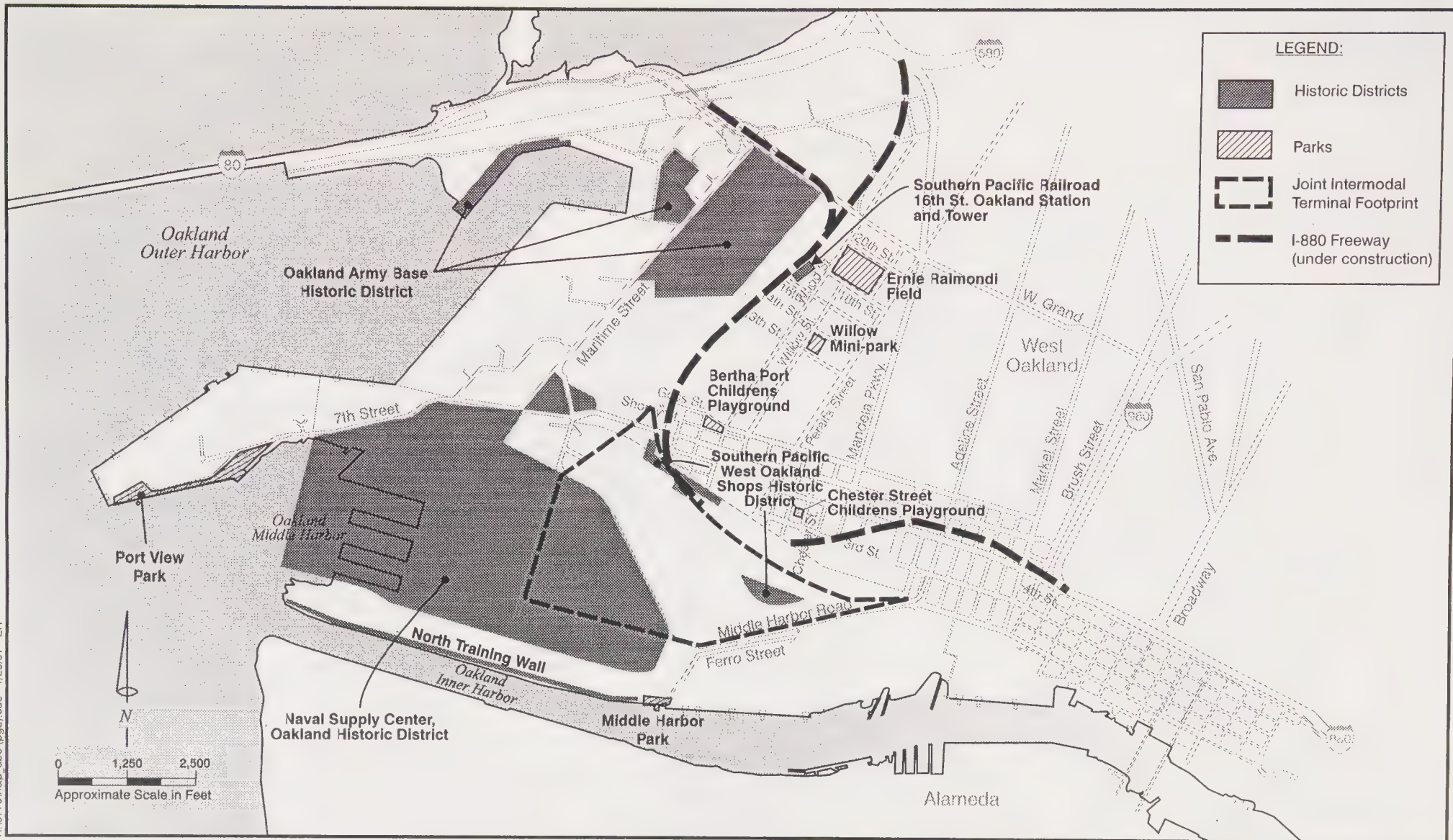
Source: Port of Oakland 1995

Fleet & Industrial Supply Center Oakland  
and Port of Oakland

Figure C-5







### Section 4(f) Parklands and Historic Resources JIT Footprint B

Source: Port of Oakland 1995

Fleet & Industrial Supply Center Oakland  
and Port of Oakland

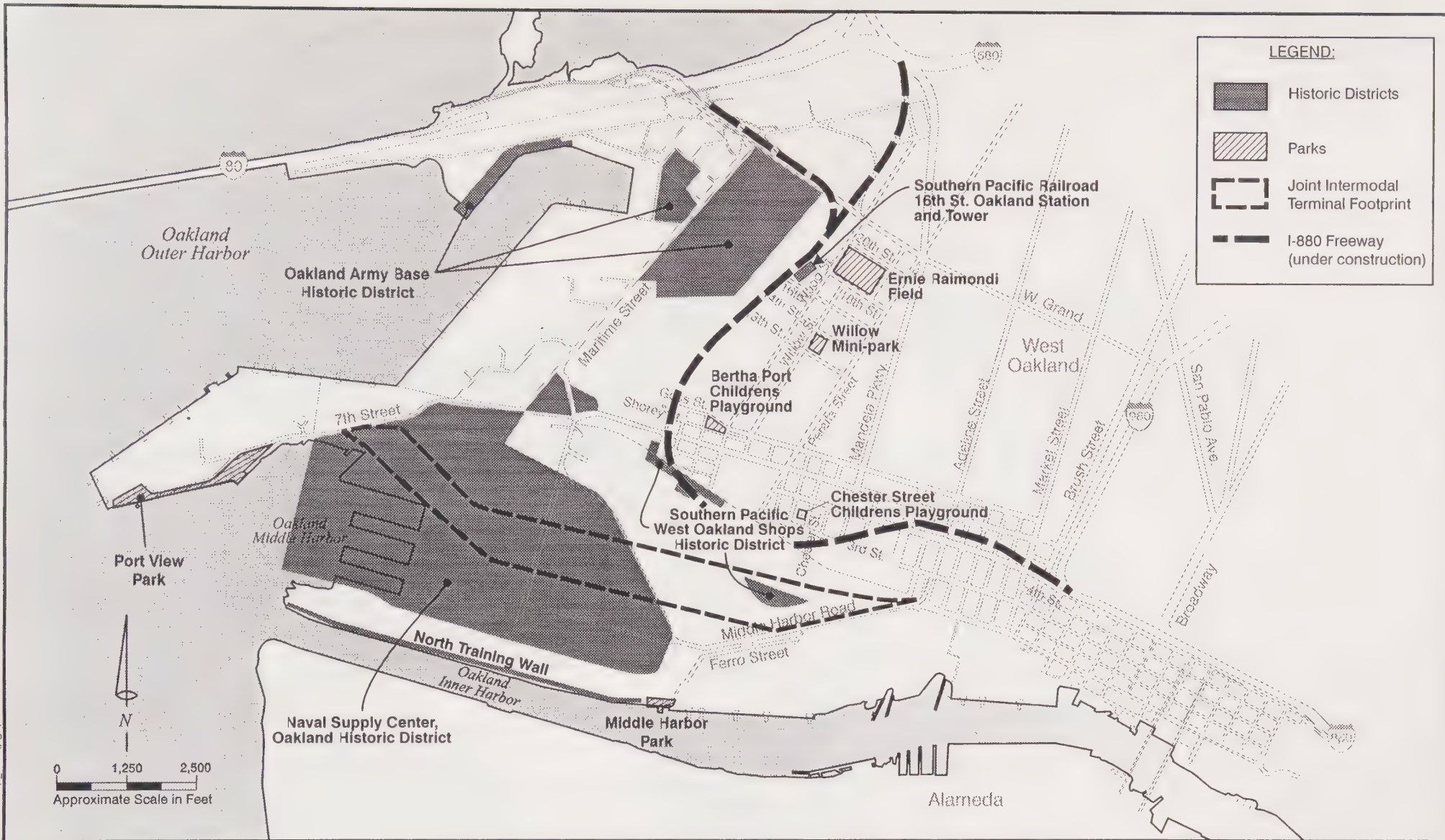
Figure C-6

Port of Oakland





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## Section 4(f) Parklands and Historic Resources JIT Footprint C

Source: Port of Oakland 1995

Fleet & Industrial Supply Center Oakland  
and Port of Oakland

Figure C-7

Port of Oakland



**Table C-1**  
**Alternatives Considered for Section 4(f) Resources**

| Alternative                                    | Feasible and Prudent | Uses Section 4(f) Land | Relative Net Harm to Section 4(f) Land After Mitigation |
|--|----------------------|------------------------|---|
| Footprint Alternative A                        | No                   | Yes (NA)               | NA  |
| Footprint Alternative B                        | No                   | Yes (NA)               | NA  |
| Footprint Alternative C                        | No                   | Yes (NA)               | NA  |
| Maximum Marine/<br>Maximum Rail<br>Alternative | Yes                  | Yes                    | Greater   |
| Minimum Marine/<br>Minimum Rail Alternative    | Yes                  | Yes                    | Lesser  |
| Maximum Marine/<br>Minimum Rail Alternative    | Yes                  | Yes                    | Greater   |
| Reduced Harbor Fill<br>Alternative             | Yes                  | Yes                    | Lesser  |

NA: Since this alternative is not feasible and prudent, it should be eliminated from further consideration. Whether section 4(f) land is used and the relative harm to section 4(f) protected properties are no longer relevant factors.

because this layout allows train access from only one end of the facility (as opposed to a double-ended facility that relieves congestion by providing twice as many ways to enter, exit, and switch in the yard), this alternative footprint was determined to make rail operations relatively difficult.

Table C-1 illustrates the alternative selection process described above. Footprint Alternatives A, B, and C were determined not to be feasible and prudent because they did not fully meet the project purpose and need and were problematic from an operations stand point. A section 4(f) evaluation is not necessary for these alternatives and no further analysis is warranted.

The remaining four project alternatives were determined to be feasible and prudent in terms of meeting the project's purpose and need as well as the project's engineering and design criteria. However, each of these four alternatives would result in a "direct use" of the NSCO Historic District. In addition, the Maximum Marine/Minimum Rail Alternative would directly use a portion of the Oakland Army Base Historic District and the Maximum Marine/Maximum Rail Alternative would directly use a portion of the Southern Pacific West Oakland Shops Historic District. Therefore, the Minimum Marine/Minimum Rail and Reduced Harbor Fill Alternatives were determined to have the least overall harm

to section 4(f) historic resources. The Port's preferred alternative is the Reduced Harbor Fill Alternative.

None of these remaining project alternatives could avoid each and every 4(f) resource in the project area while meeting the minimum size thresholds needed for cargo handling and transfer needed to reasonably develop a JIT. There are no other appropriate locations in the Bay Area that would be suitable for the proposed JIT. The proposed project location is situated close to the Oakland Inner Harbor Channel, the only deep-draft navigation channel within the Port jurisdiction that can provide marine access to a joint intermodal facility. In addition, the proposed JIT location is ideally situated close to existing rail and highway infrastructure that will expedite the transport of cargo between vessels, trains, and trucks for efficient distribution of goods.

To avoid all section 4(f) resources, the Port would have to develop the JIT on other property within or beyond its jurisdiction. Although there may be other land available that would not directly effect 4(f) resources, use of other property away from the FISCO property could involve additional impacts that would not support the project's purpose and need to increase operating rail efficiency. For example, JIT construction at another location may not be within close proximity to existing rail corridors, therefore increasing the drayage distance to transport cargo that in turn would result in traffic and air quality impacts. In addition, unlike the FISCO site, other project locations may not be specified as a port priority use pursuant to the April 1996 San Francisco Bay Conservation and Development Commission and Metropolitan Transportation Commission Seaport Plan Update.

One nearby site that is designated for port priority use is 220 acres in the northwestern corner of Alameda Island along the southern edge of the Oakland Inner Harbor. However this site, part of Naval Air Station (NAS) Alameda, contains potential 4(f) resources, including a historic wall along the Inner Harbor shoreline and habitat for the endangered California least tern. Furthermore, although marine vessels can access this site via the Inner Harbor, there are no linkages to existing rail corridors. To implement a JIT on this site, rail tracks would have to be constructed either under or across the Oakland Inner Harbor to connect to existing Union Pacific/Southern Pacific rail lines. This type of activity would result in significant traffic and air quality impacts.

If there is an available alternative site adjacent to the bay that avoids all section 4(f) resources, it would likely require the need to construct and/or relocate rail corridors and/or deep-draft marine terminals. This site would not be efficient for Port operations because it would be isolated from existing Port facilities and other necessary infrastructure required to operate a JIT and would result in much greater physical impacts compared to the proposed project. Therefore, project alternatives have been limited to variations of JIT designs that maximize use of FISCO rather than other locations on non-FISCO property.



Consultation pursuant to Section 106 of the National Historic Preservation Act regarding Port demolition in the NSCO Historic District was conducted in 1994. This consultation process concluded with the signing of an MOA that authorized demolition of buildings and structures located on about one-half of the eligible NSCO Historic District. Since the MOA was executed, thirteen contributing buildings have been demolished and another 29 are scheduled for demolition by September 1998. This work will occur with or without use of the ISTEA funds. The NSCO Historic District has suffered a substantial loss of integrity through demolitions already accomplished and will suffer much greater loss of integrity through demolitions approved but not yet accomplished in the 1994 MOA.

#### MEASURES TO MINIMIZE HARM

In April 1997, the Navy, Port, SHPO, and ACHP signed an amendment to the 1994 MOA that allows for demolition of buildings on the remainder of the NSCO Historic District. This amended MOA includes mitigation measures that take into account the larger areas of impacts associated with Navy disposal of all of FISCO. These mitigation measures are summarized in Section 4.1.4.2, Impact 1, on pages 4-9 and 4-10 and Section 5.1.4.2, Impact 1, pages 5-15 and 5-16 in Volume I of this EIS/EIR and are included in the amended historic mitigation plan in Appendix G in Volume II of this EIS/EIR.

To minimize some potential short-term impacts during JIT construction, the following measures will be incorporated into the project:

- Coordinating vehicle routes and construction activities with local authorities to ensure neighborhood safety and to minimize traffic, dust, and noise impacts;
- Adding traffic controls where construction traffic enters major streets; and
- Applying best management practices to suppress dust (see Sections 4.1.10.2 and 5.1.10.2, Mitigation 2, for a specific list of potential dust control measures during construction).

#### OTHER PARK, RECREATIONAL FACILITIES, WILDLIFE REFUGES, AND HISTORICAL PROPERTIES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(F)

The purpose of this discussion is to address section 4(f) requirements relative to other park, recreational facilities, wildlife refuges, and historical properties in the project vicinity. As indicated below, none of the alternatives under consideration result in a section 4(f) use of these other park, recreational, wildlife refuges, or historical resources. The discussion of each resource either documents (1) why the resource is not protected by the provisions in section 4(f) or (2) if it is protected by the provisions of section 4(f), why none of the alternatives under consideration cause a section 4(f) use by (a) permanently incorporating land into the project, (b)

by temporarily occupying land that is adverse to the preservationist purposes of section 4(f), or (c) by constructively using land from the resource.

Two regions of influence (ROIs) were used to identify other park, recreational facilities, wildlife refuges, and historic properties potentially affected by the project alternatives. An ROI is a geographic area in which impacts for a particular resource would likely occur. The first ROI, in the vicinity of the JIT, encompasses the area within a 0.8 kilometer (km) (one-half mile) radius of the JIT. Six parksites and two historic properties located within this ROI are evaluated below and are identified on Figures C-1, C-2, C-3, and C-4: Port View Park, Middle Harbor Park, Ernie Raimondi Field, Willow Mini-park, the Bertha Port and Chester Street Playgrounds, a structure referred to as the north training wall, and the Southern Pacific Railroad Oakland 16<sup>th</sup> Street Station and 16<sup>th</sup> Street Tower. The San Francisco Bay Trail, shown on EIS/EIR Figure 3-5 on page 3-11, is also evaluated below.

The second ROI is the 228.6 meter (m) (750-foot) band along the Southern Pacific mainline tracks (north to the Solano County/Sacramento County border and east to the Contra Costa/San Joaquin County border) that could be affected by increased regional rail service resulting from JIT operations. Eight parks, one wildlife area, and one ecological reserve are within this ROI: Aquatic Park, East Shore Park, Crescent Park, Boorman Park, Lucas Park, Point Pinole Regional Shoreline, San Pablo Bay Regional Park, Carquinez Strait Regional Shoreline Park, Point Edith Wildlife Area, and Peytonia Slough Ecological Reserve. The locations of these resources are depicted on Figures C-8 and C-9; however, as the only potential section 4(f) project issues associated with these sites would be noise and air pollutant emissions, they have not been described in detail below.

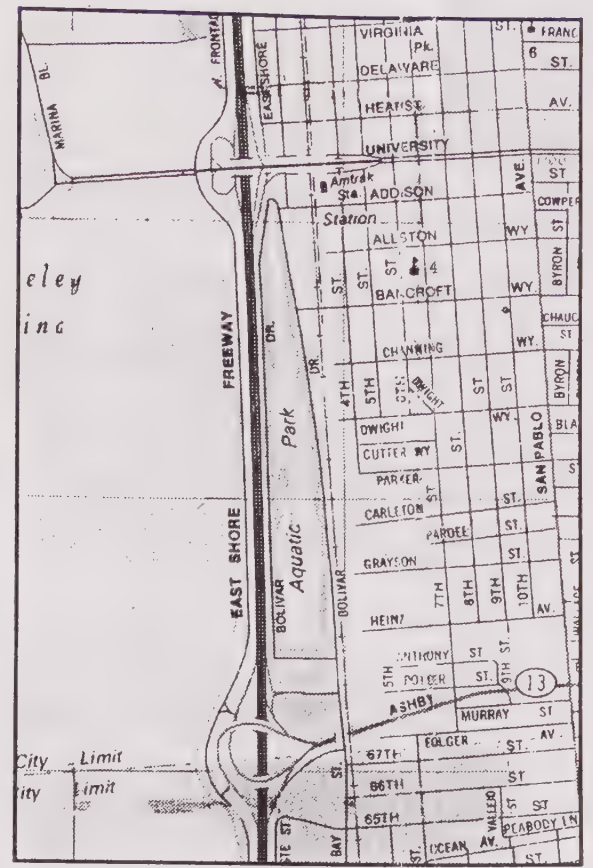
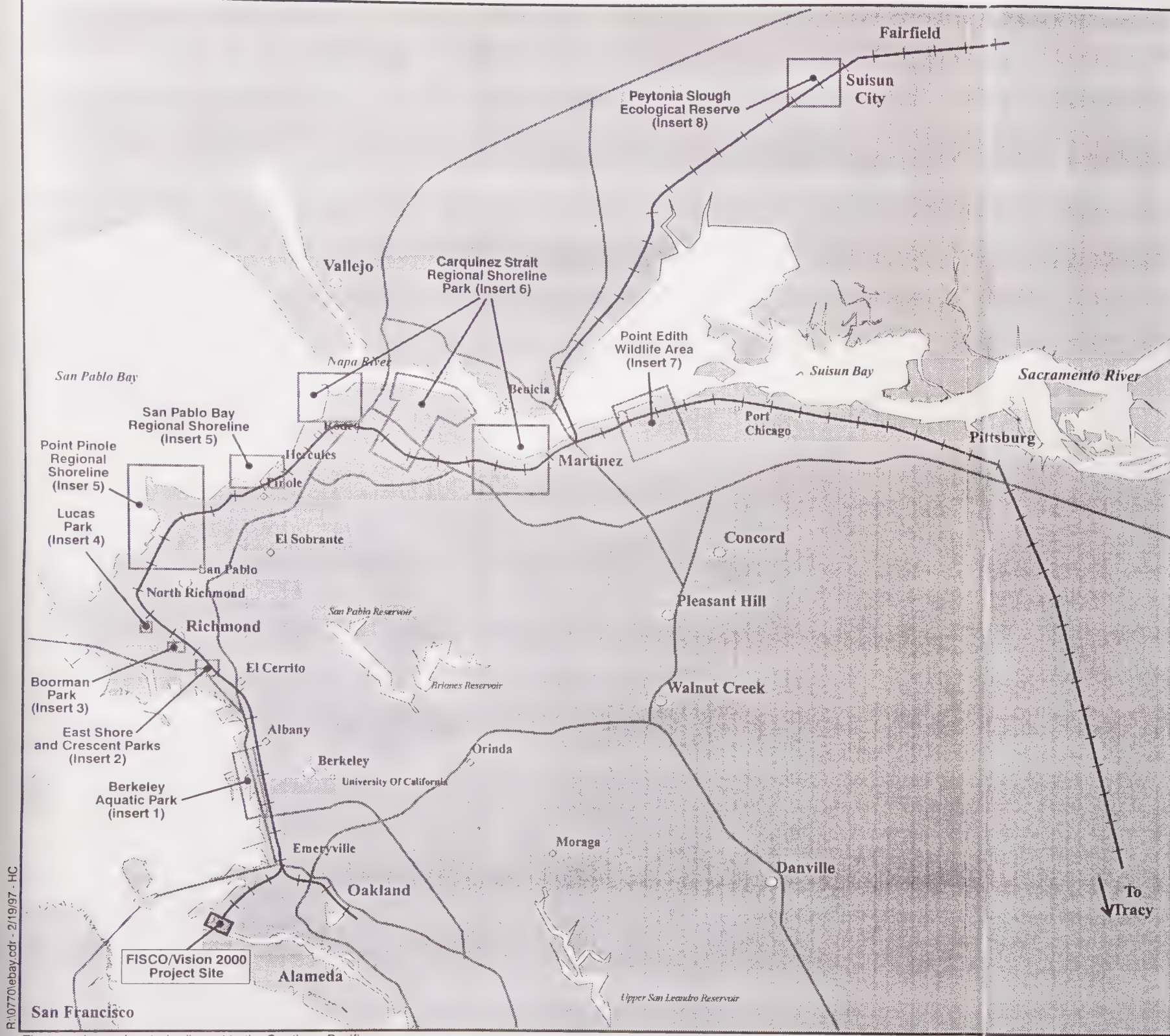
#### **DESCRIPTION OF OTHER PARKS, RECREATIONAL FACILITIES, WILDLIFE REFUGES, AND HISTORICAL PROPERTIES**

##### ***Port View Park***

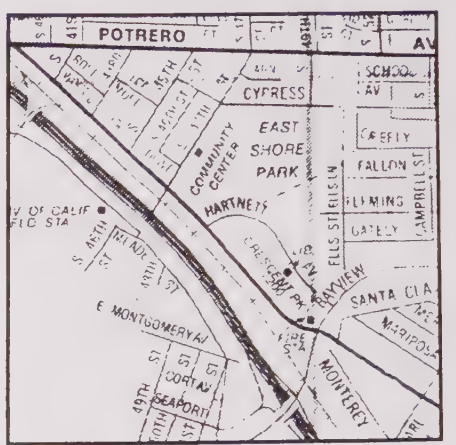
Port View Park is approximately 1.6 hectare (ha) (four acres) and is owned by the Port of Oakland. This park is located on the southeast side of 7th Street, near the Seventh Street Marine Container Terminal in West Oakland. Facilities provided at this park include a fishing pier, snack bar and bait shop, restrooms, playground, picnic tables, barbecues, outdoor sculpture, and an enclosed two-story viewing area. Popular activities at this park are picnicking and fishing. Pedestrian and vehicular access to Port View Park is via 7th Street. Middle Harbor Park, located about 2.9 km (1.8 miles) to the southeast, provides the only other public fishing pier and shoreline access to the bay.



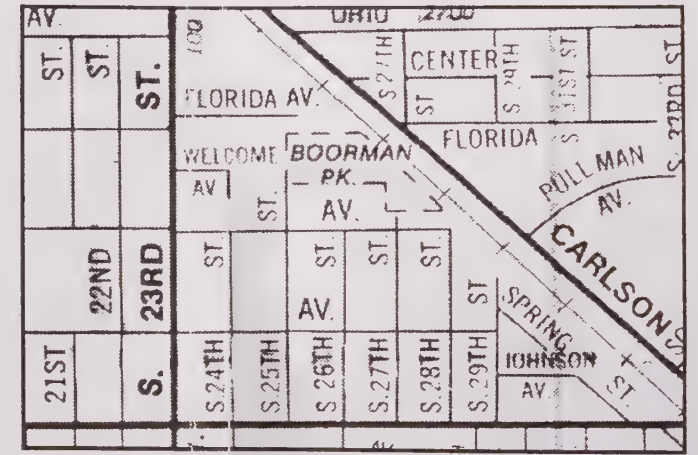
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Insert 1: Aquatic Park



Insert 2: East Shore and Crescent Parks



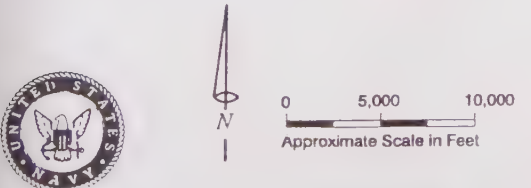
Insert 3: Boorman Park

These parks are located adjacent to the Southern Pacific mainline tracks north and east of the project site.

### Section 4(f) Resources Along the Southern Pacific Mainline Corridor

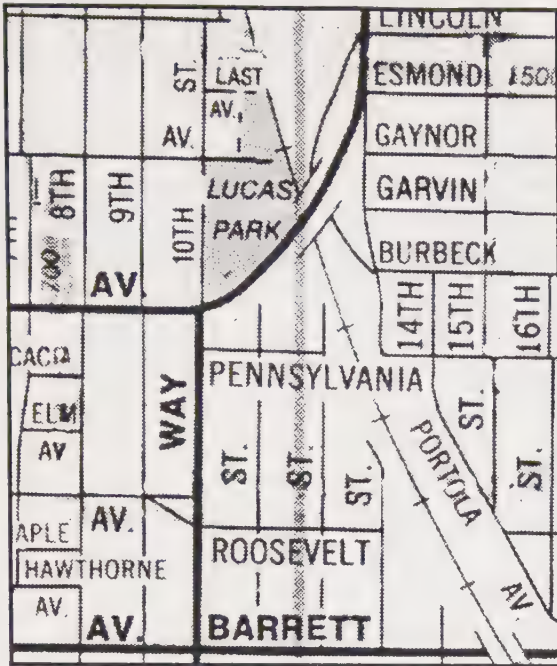
Fleet & Industrial Supply Center Oakland and Port of Oakland

Figure C-8

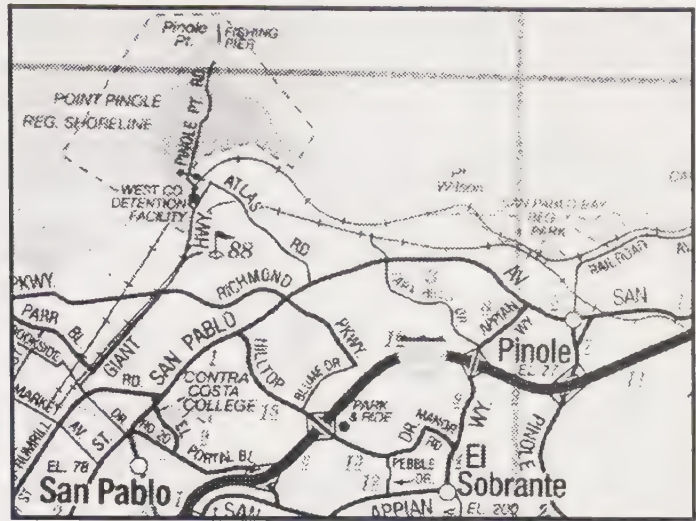




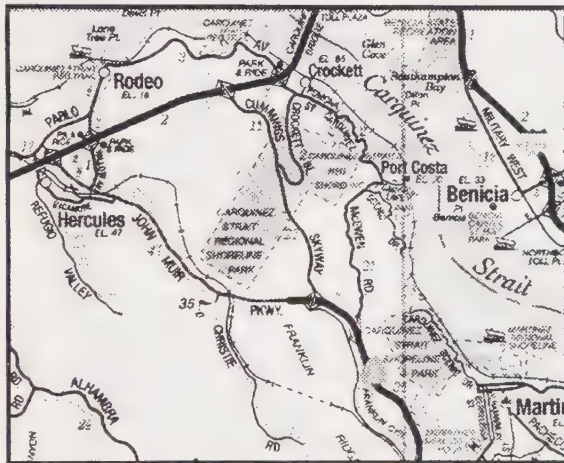




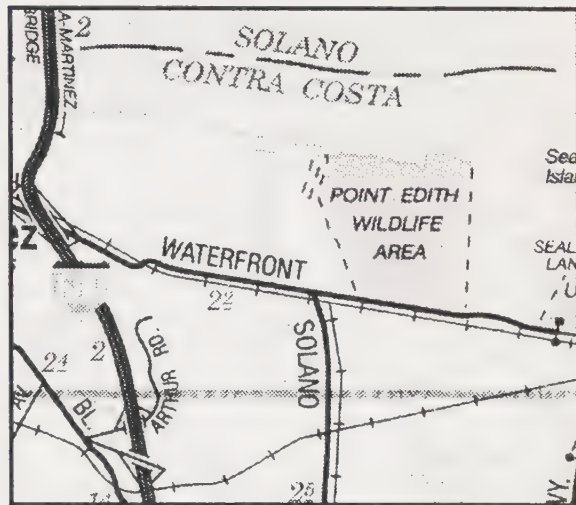
Insert 4: Lucas Park



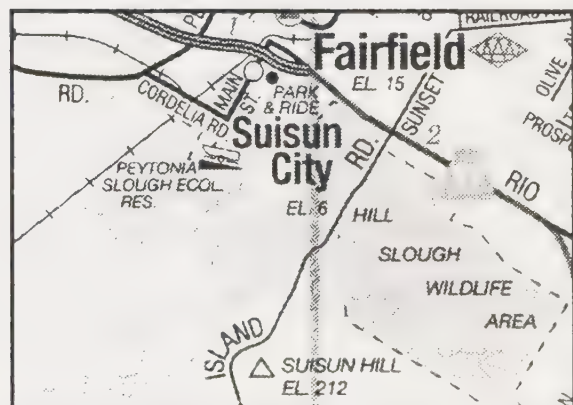
Insert 5: Pinole Point Regional Shoreline and San Pablo Bay Regional Park



Insert 6: Carquinez Strait Regional Shoreline Park



Insert 7: Point Edith Wildlife Area



Insert 8: Peytonia Slough Ecological Reserve



Scale Varies

These parks are located adjacent to the Southern Pacific mainline tracks north and east of the project site.

## Section 4(f) Resources Along the Southern Pacific Mainline Corridor

Fleet & Industrial Supply Center Oakland and Port of Oakland

Port of Oakland



Figure C-9

Developed by Tetra Tech

***Middle Harbor Park***

Middle Harbor Park is an approximate 0.4-ha (one-acre) park owned by the Port of Oakland and located along the Oakland Inner Harbor between the Middle Harbor Terminal and the Union Pacific Intermodal Railyard. Facilities at Middle Harbor Park include picnic tables, benches, and a fishing pier. Visitors use this park for eating lunch and fishing. Vehicular and pedestrian access to this park is from Ferro Street via Middle Harbor Road. This access route passes through a heavily industrialized part of the Port area.

***Ernie Raimondi Field***

Ernie Raimondi Field is owned by the City of Oakland and is approximately 4.05 ha (10 acres). This field is located in West Oakland, west of I-880, and is bordered by 20th Street to the northeast, Campbell Street to the southeast, 18th Street to the southwest, and Wood Street to the northwest. Ernie Raimondi Field has one baseball diamond and two soccer fields. The field is used primarily for baseball/softball games and soccer matches. Street parking is available for vehicles, and pedestrian access is from the surrounding four streets.

During the weekends, it is estimated that between 300 and 400 people use this field. During the weekday, data on usage is derived from records of permitted activities. There are about 50 to 75 daily permitted users between the hours of 3:30 PM to sunset (Morgan, R., October 28, 1996, personal communication). Ernie Raimondi Field is the only park in the vicinity that provides active recreational fields for sports such as baseball and soccer.

***Willow Mini-park***

Willow Mini-park is owned by the City of Oakland and is approximately 0.36 ha (0.9 acre). This park is located in West Oakland, west of I-880, and is bordered by Willow Street to the northwest, 13th Street to the southwest, and 14th Street to the northeast. Facilities at this Mini-park include picnic areas (four tables), a half-size basketball court, restrooms, and a tool shed. Recreation activities at this Mini-park include picnicking, basketball, barbecuing, and checkers. Principal vehicular access is via Willow Street. Approximately 50 or fewer people use the Willow Mini-park daily (Gullet, D., November 5, 1996, personal communication). This park has experienced problems with litter and is viewed as a potential location for illegal drug activities (Morgan, R., November 5, 1996, personal communication). Chester Street Playground, located about 1.04 km (0.65 miles) to the southeast, also provides a half-size basketball court to this neighborhood.

***Bertha Port Playground***

Bertha Port Playground is owned by the City of Oakland and is approximately 0.1-ha (one-quarter acre). This playground is located in West Oakland, west of I-880, and is bordered by Shorey Street to the east, Wood Street to the south, and Goss Street to the west. Approximately 0.06 ha (0.14 acre) of this site is grass, and the remaining 0.04 ha (0.11 acre) is a playground. There are no athletic facilities at this site. Adults and children use the playground to relax and have lunch. The



West Oakland community, estimated at approximately 23 to 30 persons per day (Gullet, D., November 5, 1996, personal communication) uses this playground. Bertha Port Playground has also experienced problems with litter and is viewed as a potential location for illegal drug activities (Morgan, R., November 5, 1996, personal communication).

#### ***Chester Street Playground***

Chester Street Playground is owned by the City of Oakland and is approximately 0.5 ha (0.13 acre). This playground is located in West Oakland, west of I-880, and is bordered by Chester Street to the southeast between 3rd and 5th Streets. This playground is mostly paved with a half-size basketball court and a small sand playground with play apparatus. There are no on-site restrooms. In mid-October 1996, vandals destroyed the play equipment, and the city has no plans to restore the playground to its previous condition (Morgan, R., November 5, 1996, personal communication). Prior to the October 1996 vandalism incident, it was estimated that about 20 people per day used this facility (Gullet, D., November 5, 1996, personal communication).

#### ***Union Pacific Intermodal Railyard North Training Wall***

Although located on the Union Pacific Intermodal Railyard, it is presumed that the US Army Corps of Engineers owns the north training wall, a structure that is located along the northern edge of the Inner Harbor Channel. There is also a parallel south training wall along the northern edge of Alameda Island. Together, these two training walls defined the alignments for moles (i.e., bermed railroad tracks extending into the water) constructed at the Alameda and Oakland side of the Oakland Inner Harbor.

The north training wall is visible for about 731.7 m (2,400 feet), extending east from the western edge of the Union Pacific Intermodal Railyard. To the east, this training wall is completely buried under fill. It is presumed that more than 2,134 m (7,000 feet) of the training wall are buried in this manner.

The north training wall was originally seen as an underwater jetty made of stone and pilings and designed to train the channel, forcing it to scour itself and deepen the channel for navigational purposes. Later, as the wall was constructed, it was raised above the high-water mark, converting it into a jetty. The north training wall is backfilled and in places is covered by fill installed by the railroad many years after the wall was constructed.

Access to this historic property is via Ferro Street but it is not accessible by the public. The north training wall is part of the Union Pacific Intermodal Railyard that employs about 55 workers. It is not used for any purpose.

#### ***Southern Pacific Railroad Oakland 16<sup>th</sup> Street Station and 16<sup>th</sup> Street Tower***

The Southern Pacific Railroad Oakland 16<sup>th</sup> Street Station and Tower is located at the end of 16<sup>th</sup> Street off Wood Street in West Oakland. The station was

constructed in 1911-1912 by the Southern Pacific Railroad and is 83.2 m (273 feet) long overall, 18.3 m (60 feet) high, and contains beaux-arts decorative details. The 16<sup>th</sup> Street Tower is a three-story reinforced concrete structure. This depot was an active train station from 1912 up until it was damaged in the 1989 Loma Prieta earthquake, when other buildings in the station area were converted for temporary use as a train station. The historic station is vacant and no longer used. Train service is now provided at two new Amtrak stations at Emeryville and Jack London Square.

### ***San Francisco Bay Trail***

The San Francisco Bay Trail is a network of proposed and existing multi-use pathways circling San Francisco and San Pablo Bays. When complete, it will encompass a 644-kilometer (400-mile) route through all nine Bay Area counties and 42 shoreline cities. Approximately 274 kilometers (170 miles) of the planned trail have been completed. The Bay Trail offers walkers, runners, cyclists, nature lovers, and hikers access to the bay and its many diverse resources.

Figure 3-5 on EIS/EIR page 3-11 depicts the existing segments and conceptual alignments of the Bay Trail in Oakland and Alameda. Two short segments of the Bay Trail are currently designated in the JIT vicinity and come under the protection of section 4(f). The closest Bay Trail segment to the JIT extends along 7th Street west of Maritime Street. The trail is within the 7th Street right-of-way and is not separated from the roadway. The Port has been granted an order to vacate the western portion of 7th Street and will provide right-of-way for a future separated bicycle path. A direct section 4(f) use will not occur because future adjustments or changes in the alignment of 7th Street or the trail will not substantially impair the continuity of the trail. The other existing short segment of the Bay Trail is southwest of Middle Harbor Road near Middle Harbor Park and removed from the JIT. JIT proximity impacts to these two short segments of designated Bay Trail are addressed below.

The remaining portions of the Bay Trail in the JIT vicinity do not currently exist, are conceptual in nature, and are, therefore, not protected by the provisions of section 4(f). However, to assure mutual compatibility between the future Bay Trail and future Port facilities, the Port will coordinate further planning and development of the JIT and other Vision 2000 facilities with the planning and development of the Bay Trail by the Association of Bay Area Governments, the Oakland City Parks and Recreation Department, the National Park Service, and other appropriate agencies. Future Port Vision 2000 project-specific environmental evaluations will describe and evaluate the mutual development of the Bay Trail and Port facilities.

## **IMPACTS ON OTHER PARKS, RECREATIONAL FACILITIES, WILDLIFE REFUGES, AND HISTORICAL PROPERTIES**

### **Access**

JIT operations would not restrict access to 4(f) resources in the project vicinity. During JIT construction, access to Port View Park and Middle Harbor Park could be affected by increased truck traffic along 7th Street and Middle Harbor Road, respectively. JIT construction under all four project alternatives would also require reconstruction and/or extension of Middle Harbor Road through the FISCO site. However, measures will be taken to keep these two roads open to public through-traffic and therefore not reduce or interfere with public use of these two parksites (see Measures to Minimize Harm). There would be no access impacts at the 4(f) parks, wildlife area, or ecological reserve adjacent to the Southern Pacific rail line because no new construction along these tracks is proposed as part of the JIT, therefore, existing access to these resources would not be disturbed.

The Port's Vision 2000 Program includes a public access component that will substantially increase the amount of usable public recreational and open space opportunities in the Middle Harbor area (31 new acres of public shoreline access under the preferred Reduced Harbor Fill Alternative) and will include improved linkages to the Bay Trail at 7th Street (see EIS/EIR Section 2.2.6). As described above, the Port will coordinate with applicable agencies during planning and development of the JIT and other Vision 2000 facilities with planning and development of the Bay Trail.

### **Noise**

Any of the four project alternatives could result in increased noise levels attributable to increases in truck and rail traffic that in turn, could effect noise-sensitive 4(f) resources. Noise generated by increased vehicle traffic is not expected to have a severe impact on nearby park 4(f) resources in the project vicinity. The Cypress Freeway, scheduled for completion sometime in 1997, would reduce existing traffic volumes along many surface streets and would add this freeway segment as a new noise source in the neighborhood. Because of high existing and future reduced background traffic volumes anticipated on neighborhood streets with completion of the Cypress Freeway, future project-induced traffic would not have a severe impact on noise levels at these 4(f) resources and therefore would not substantially impair activities at these existing urban resources.

The Bay Trail segments in the project vicinity are within existing street rights-of-way used by trucks and automobiles to access the waterfront. It is not anticipated that future noise levels on these roadways would be substantially different than current noise levels and therefore would not substantially impair the use or enjoyment of the Bay Trail.



Future noise levels from daily rail operations were estimated for six park sites in the immediate JIT vicinity. Rail operations for each alternative were broken down by train length and train type (i.e., Amtrak, switchers, and freights). A 15-MPH train speed was assumed for all rail operations. The rail operations noise model used for this analysis simulates the history of pass-by events and then computes CNEL levels based on event duration, number of daytime events, number of evening events, and number of nighttime events (details on existing and projected type and number of trains travelling along the Southern Pacific mainline in the Bay Area are documented in Appendix J.3 in Volume II). Calculations were performed with and without train horn noise. The rail operations noise model uses locomotive noise equations from Lotz and Kurzweil (1979) and Remington, Rudd, and Mason (1980). Railcar noise equations used in the model are from Lotz and Kurzweil (1979).

As shown in Table C-2, future projected noise levels at the six nearby 4(f) park sites would be lower than the 75 decibels (dB) estimated at FISCO in the mid-1980s (US Navy 1990). Therefore, it is anticipated that none of the alternatives would generate noise levels from rail operations that would substantially impair use of parks or playgrounds, including existing portions of the Bay Trail, within 0.8 km (one-half mile) of the JIT. The Union Pacific training wall and Southern Pacific 16<sup>th</sup> Street Station are not publicly accessible and are not noise-sensitive resources, therefore project noise would not substantially impair the use or integrity of these resources.

**Table C-2**  
**Noise Impacts of Rail Operations at Park and Playground Locations within 0.8 km**  
**(one-half mile) of the JIT**

| Park                      | CNEL Increment from Rail Operations (dB) |                                 |                                 | Reduced Harbor Fill |
|---------------------------|--|---------------------------------|---------------------------------|---------------------|
|                           | Maximum Marine/<br>Maximum Rail          | Minimum Marine/<br>Minimum Rail | Maximum Marine/<br>Minimum Rail |                     |
| Port View Park            | 53.8                                     | 53.3                            | 53.5                            | 53.5                |
| Middle Harbor Park        | 54.5                                     | 54.1                            | 54.6                            | 55.2                |
| Ernie Raimondi Field      | 53.8                                     | 53.3                            | 53.4                            | 53.3                |
| Willow Mini Park          | 53.9                                     | 53.8                            | 53.9                            | 54.0                |
| Bertha Port Playground    | 54.5                                     | 54.2                            | 54.5                            | 54.7                |
| Chester Street Playground | 55.5                                     | 54.0                            | 54.2                            | 55.5                |

Note: Analyses assume no routine sounding of train horns in the JIT area.

There are eight additional parksites, as well as one wildlife area and one ecological reserve north and east of the proposed JIT site, that are located within 229 m (750 feet) of the Southern Pacific mainline tracks (see Figures C-8 and C-9):

- Aquatic Park (Berkeley);
- East Shore Park (Richmond)
- Crescent Park (Richmond);
- Boorman Park (Richmond);
- Lucas Park (Richmond);
- Point Pinole Regional Shoreline (Contra Costa County, managed by East Bay Regional Parks District);
- San Pablo Bay Regional Park (Contra Costa County, managed by East Bay Regional Parks District)
- Carquinez Strait Regional Shoreline Park (Contra Costa County, managed by East Bay Regional Parks District)
- Point Edith Wildlife Area (Contra Costa County)
- Peytonia Slough Ecological Reserve (Solano County)

The existing daily number of freight trains travelling north along the mainline segment between the JIT and Richmond is 20. The projected average increase in the number of freight trains travelling along this segment ranges from four under the Minimum Marine/Minimum Rail Alternative to 11 under the Maximum Marine/Maximum Rail, Maximum Marine/Minimum Rail, and Reduced Harbor Fill Alternatives. Twelve freight trains travel north daily in the mainline segment between Richmond and Martinez. The projected average increase in the number of freight trains travelling along this segment ranges from eight under the Minimum Marine/Minimum Rail Alternative to 15 under the Maximum Marine/Maximum Rail, Maximum Marine/Minimum Rail, and Reduced Harbor Fill Alternatives (see Appendix J.3 in Volume II). However, noise caused by increases in train pass-by trips is not anticipated to cause a substantial decrease or impairment in the use or enjoyment of nearby 4(f) resources because of the existing high volume of train traffic along this corridor.

Table C-3 summarizes the results of the rail noise modeling analysis. Compared to conditions without the JIT project, JIT implementation would result in a noise level increase of less than 3 dB. Given the already high ambient noise environment in the vicinity of the Southern Pacific mainline tracks, this minor increase in noise would not substantially impair the use or enjoyment of these 4(f) resources by noise-sensitive receptors (also see Table 5-12, Section 5.1.11.2, page 5-67 in Volume I).

**Table C-3**  
**CNEL Noise Impacts of Rail Operations (dB) to Sensitive Receptors**  
**within 229 m (750 feet) of the Southern Pacific Mainline Tracks**

| Distance (m)      | No Action |        | Maximum Marine/<br>Maximum Rail<br>Alternative |        | Minimum Marine/<br>Minimum Rail<br>Alternative |        | Maximum Marine/<br>Minimum Rail<br>Alternative |        | Reduced Harbor Fill<br>Alternative |        |
|-------------------|-----------|--------|--|--------|--|--------|--|--------|------------------------------------|--------|
|                   | w/o Horn  | w/Horn | w/o Horn                                       | w/Horn | W/o Horn                                       | w/Horn | w/o Horn                                       | w/Horn | w/o Horn                           | w/Horn |
| 229<br>(750 feet) | 65.7      | 66.0   | 67.9   | 68.2   | 66.3   | 66.5   | 68.0   | 68.2   | 68.0                               | 68.2   |

### ***Air Quality***

Recent air quality monitoring data near the project site is summarized in Tables 3-25 and 3-26 in Volume I of the EIS/EIR. Future carbon monoxide emissions would fall within the range of what has been historically recorded in the project area and therefore project emissions would not substantially impair the use or enjoyment of 4(f) properties in the JIT vicinity. Similarly, it is anticipated that there would be no significant carbon monoxide impact on 4(f) properties that are located near the Southern Pacific mainline tracks.

Projected future ozone precursor emissions without the project would be high compared to the BAAQMD's regulatory threshold of 15 tpy (see discussion under Impacts on Section 4(f) Properties) and JIT implementation under all four reuse alternatives would result in further increased emissions. However, these emissions would not substantially impair use or enjoyment of section 4(f) resources, including 4(f) resources in the immediate JIT vicinity and those adjacent to the Southern Pacific mainline tracks, because they are located in areas already affected by degraded air quality and existing rail operations.

All four project alternatives would require demolishing existing structures within the JIT footprint. This demolition activity would be a temporary source of fugitive dust and construction vehicle emissions. However, when properly controlled with best management practices, dust from these activities would not create a localized nuisance nor would it substantially impair the use or enjoyment of nearby 4(f) resources. The closest 4(f) resources to the proposed area of demolition and construction would be Port View Park and Middle Harbor Park. However, both sites are located approximately 366 m (1,200 feet) from the outer edge of the JIT's boundary; therefore, temporary air emissions from demolition activities would not be expected to interfere with use of these parks.

### ***Visual***

Demolishing FISCO buildings and multi-story warehouses, seen in the foreground from Port View and Middle Harbor Parks and the existing portions of the Bay Trail under all four project alternatives, would create more expansive viewing opportunities to the north and east towards downtown Oakland and the East Bay Hills. Short-term building demolition activities may result in temporary



visual impacts; however, given the industrial nature of surrounding property in the project area, any visual intrusion would not interfere substantially with use of these two parks.

The JIT would not have any adverse visual impacts to users of Ernie Raimondi Field, Willow Mini-park, Bertha Port Playground, or the Chester Street Playground. These four parksites are located east of the proposed Cypress Freeway currently under construction. In addition, noise walls are proposed around certain sections of the Cypress Freeway that could further block any existing views of the JIT site. The Union Pacific north training wall and Southern Pacific 16<sup>th</sup> Street Station are not publicly accessible and are located in highly urbanized industrial areas, therefore there would be no visual effects to these resources. There would also be no visual impacts at the 4(f) parks, wildlife area, or ecological reserve adjacent to the Southern Pacific mainline because this is an existing rail corridor and no new construction along these tracks is proposed as part of the JIT.

#### ***Wildlife and Vegetation***

The 4(f) resources in the JIT project vicinity are located in disturbed, developed areas that support limited wildlife or vegetation resources. Therefore, there would be no impacts to wildlife or vegetation. No severe impacts to wildlife and vegetation would be expected at the 4(f) parks, wildlife area, or ecological reserve located along the Southern Pacific mainline because this is an existing rail corridor and no new construction along these tracks is proposed as part of the JIT.

#### ***Water Quality***

The 4(f) resources in the project vicinity are located in disturbed, developed areas that do not contain natural water resources. Therefore, there would be no water quality impacts. No severe water quality impacts would be expected at the 4(f) parks, wildlife area, or ecological reserve adjacent to the Southern Pacific mainline because this is an existing rail corridor and no new construction along these tracks is proposed as part of the JIT.

#### **CONCLUSION**

Based upon the above information, it is FHWA's determination that the identified potential proximity impacts will not substantially impair the activities, features, or attributes of the section 4(f) resources addressed above and, accordingly, there is no "use" of these resources.

#### **COORDINATION**

The Navy and Port have consulted with the SHPO, ACHP, and Oakland Landmarks Preservation Advisory Board and have amended the terms of the 1994 MOA for leasing all of FISCO and the eventual disposal of FISCO to the Port. As described above, these applicable parties have prepared an amended historic mitigation plan, included in Appendix G in Volume II of this EIS/EIR. Additional coordination has taken place with the Department of the Interior,

National Park Service (see Comments and Responses in Volume I, Letter C). The Department of the Interior indicated they have no objections to section 4(f) approval of the proposed project provided the measures to mitigate impacts to historical structures are documented in the final section 4(f) evaluation in the Final EIS/EIR. These measures are included in Appendix G.

## CONCLUSION

Based upon the above considerations, it is FHWA's determination that there is no feasible and prudent alternative to the use of land from the NSCO Historic District and that the proposed action includes all possible planning to minimize harm to the Naval Supply Center, Oakland Historic District resulting from such use.

## REFERENCES

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- Remington, P.J., M.J. Rudd, and R. Mason. 1980. "Measurement and Diagnosis of Diesel Electric Locomotive Noise," *Noise Control Engineering* 14(2):66-73.
- US Navy. 1990. Environmental Impact Statement for Candidate Base Closures/Realignment in the San Francisco Bay Area, San Francisco, California. Prepared by Tetra Tech, Inc. San Francisco, California. November 1990.

## PERSONAL COMMUNICATIONS

- Grace, Steve, Supervisor 1, Oakland City Parks and Recreation Department. October 29, 1996, with Ed Bondoc, Tetra Tech, Inc.
- Gullet, Dave, Area Manager, Oakland City Parks and Recreation Department. November 5, 1996, with Ed Bondoc, Tetra Tech, Inc.

Luckhart, Dean, Port of Oakland. November 6, 1996, personal communication with Ed Bondoc, Tetra Tech, Inc.

Morgan, Roy, Area Administrator, Oakland City Parks and Recreation Department. October 28 and November 5, 1996, with Ed Bondoc, Tetra Tech, Inc.

Yamashita, A., Park Supervisor 2, Oakland City Parks and Recreation Department. November 5, 1996, with Ed Bondoc, Tetra Tech, Inc.

## C.2 BCDC BAY PLAN POLICIES

A San Francisco Bay Conservation and Development Commission (BCDC) consistency determination is required under 15 CFR 930 Subpart F to enable FHWA approval of federal-aid ISTEA funds for the first phase of the JIT proposed as part of the Port of Oakland's Vision 2000 Program. The Port submitted a request to BCDC for this consistency determination on June 25, 1997.

The BCDC Bay Plan contains several applicable policies to the proposed joint intermodal terminal. These policies, and how the joint intermodal terminal satisfies the provisions of these policies, is briefly discussed below. BCDC will use this information to determine the consistency of FHWA's joint intermodal terminal funding action with the Bay Plan. FHWA will not approve a record of decision for this project until BCDC has determined that the joint intermodal terminal is consistent with the Bay Plan.

### *Port Policies*

1. Port planning and development should be governed by the policies of the Seaport Plan and other applicable policies of the Bay Plan.
2. Some filling and dredging will be required to provide for necessary port expansion, but any permitted fill or dredging should be in accord with the Seaport Plan.
3. Port priority use areas should be protected for marine terminal and directly-related ancillary activities such as container freight stations, transit sheds and other temporary storage, ship repairing, support transportation uses including trucking and railroad yards, freight forwarders, government offices relocated to the port activity, and marine services.

As described in Section 2.2.2 in Volume I of this EIS/EIR, FISCO is within the Port jurisdiction and is designated as a port priority use area in the April 1996 BCDC and Metropolitan Transportation Commission (MTC) Seaport Plan Update (see Figure 2-1 in Volume I). In conformance with this regional land use designation, the Port's Vision 2000 Program alternatives emphasize port-related activities, as opposed to other types of uses, such as residential. The development



of the Vision 2000 Program project alternatives was predicated largely upon the requirements for effective maritime cargo transportation operations, including provision for enhanced intermodal rail terminal capability.

No dredging or filling is required to construct the joint intermodal terminal under the Minimum Marine/Minimum Rail, Maximum Marine/Minimum Rail, or Reduced Harbor Fill Alternatives. Approximately 32 acres of solid fill is required to construct the joint intermodal terminal under the Maximum Marine/Maximum Rail Alternative.

#### *Water Quality Policies*

1. To the greatest extent feasible, the Bay marshes, mudflats, and water surface area and volume should be maintained and, whenever possible, increased. Fresh water inflow into the Bay should be maintained at a level adequate to protect Bay resources and beneficial uses. Bay water pollution should be avoided.
2. Water quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the Regional Water Quality Control Board's Basin Plan. The policies, recommendations, decisions, advice and authority of the State Water Resources Control Board and the Regional Water Quality Control Board, should be the basis for carrying out the Commission's water quality responsibilities.
3. Polluted runoff from projects should be controlled by the use of best management practices in order to protect the water quality and beneficial uses of the Bay, especially where water dispersion is poor and near shellfish beds and other significant biotic resources. Whenever possible, runoff discharge points should be located where the discharge will have the least impact.

No filling or dredging is required to construct the joint intermodal terminal under the Minimum Marine/Minimum Rail, Maximum Marine/Minimum Rail, or Reduced Harbor Fill Alternatives; therefore, there will be no change to water surface area and volume. Under the Maximum Marine/Maximum Rail Alternative, the proposed fill would most likely be bay deposits and would not reduce the overall volume of the bay. The proposed joint intermodal terminal would not affect fresh water inflow into the bay.

As described under the mitigation for Impact 1, Pollutants in Runoff and Adjacent Waters, in Section 5.1.7 of EIS/EIR Volume I, the Port will undertake all necessary measures to avoid bay water pollution and maintain water quality. The Port's stormwater pollution prevention program shall be expanded to include the entire project site (including the area proposed for development of the joint intermodal terminal). Applicable proposed uses in that area shall be

inspected for compliance with the stormwater management program and the Port's BMPs. The Port, in conjunction with the Regional Water Quality Control Board, shall assist tenants with identifying and implementing appropriate BMPs. The Port shall also assist future tenants in retrofitting the stormdrain and sanitary sewer system, if necessary, and developing and implementing operational and facility BMPs for controlling stormwater quality consistent with their stormwater management program and stormwater pollution prevention plan (SWPPP).

#### *Transportation Policies*

2. Because of the continuing vulnerability of the Bay for filling for freeways, an effective program should be created to develop, test, and inaugurate new methods of transportation within the Bay Area. This should be undertaken by a regional transportation agency, preferably one that is part of a limited regional government.

The proposed joint intermodal terminal would improve the efficiency of cargo transportation through the Bay Area and beyond and reduce freeway congestion by using rail. For example, container traffic from the Burlington Northern-Santa Fe railyard along Highway I-80 between Richmond and the Port would be removed as a result of the project because this railyard would relocate to the proposed joint intermodal terminal.

#### *Appearance, Design, and Scenic View Policies*

5. To enhance the maritime atmosphere of the Bay Area, ports should be designed, whenever feasible, to permit public access and viewing of port activities by means of (a) viewpoints (e.g., piers, platforms, or towers), restaurants, etc., that would not interfere with port operations, and (b) opening between buildings and other site designs that permit views from nearby roads.

Although not proposed as part of the joint intermodal terminal project, the Port's broader Vision 2000 Program provides for new public access to the Middle Harbor. The Port's preferred public access plan calls for development of a variety of recreation and community facilities in this area, including a snack bar, public pavilion, and fishing pier, that allow for viewing of adjacent port operations at the joint intermodal terminal. The proposed joint intermodal terminal would improve visual access to the bay because it would remove remaining buildings on the FISCO property.

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**FISCO/Vision 2000**



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## APPENDIX D PUBLIC INVOLVEMENT

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|   |      |
|---|------|
| SCOPING LETTER                          | D-1  |
| NOTICE OF INTENT                        | D-13 |
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## DEPARTMENT OF THE NAVY

ENGINEERING FIELD ACTIVITY, WEST  
NAVAL FACILITIES ENGINEERING COMMAND  
900 COMMODORE DRIVE  
SAN BRUNO, CALIFORNIA 94066-5008

IN REPLY REFER TO:

5090.1  
Ser 185/EP6-978  
May 30, 1996

### PUBLIC NOTICE

**Subject: Notice of Scoping of Public Concerns regarding a combined Environmental Impact Statement/Environmental Impact Report on the Disposal and Reuse of the Fleet and Industrial Supply Center Oakland, California**

The United States Navy in association with the Port of Oakland, California, announces its intent to prepare a joint Environmental Impact Statement /Environmental Impact Report (EIS/EIR) for the proposed disposal and reuse of the Fleet and Industrial Supply Center, Oakland (FISCO), property and structures in Oakland, California. The Defense Base Closure and Realignment Act (Public Law 101-510) of 1990, as implemented by the base closure process of 1995, directed the Navy to close FISCO. The EIS/EIR will be prepared in accordance with Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500 - 1508), the California Environmental Quality Act (CEQA), and Public Law 102-484 Section 2834, as amended by Public Law 104-106 Section 2867. The Navy will be the EIS lead agency for NEPA documentation and the Port of Oakland will be the EIR lead agency for CEQA documentation.

FISCO is located approximately two miles west of the Oakland central business district, on the eastern shore of San Francisco Bay. It consists of approximately 528 acres and has about 125 structures that support general supply operations, waterfront operations and administration.

The EIS/EIR will address the potential impacts to the environment that may result from the disposal of the FISCO property and subsequent reuses. FISCO is within the planning jurisdiction of the Port of Oakland. The Port of Oakland Vision 2000 Program proposes development of ship, railroad, and truck freight handling facilities to meet the anticipated demand for transportation services in the San Francisco Bay area and northern California and an intermodal port of national and international commerce. The Vision 2000 Program also includes development of public waterfront access and marine habitat enhancement.

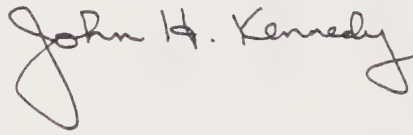
The development of the Port of Oakland Vision 2000 Program is expected to require additional property outside of the FISCO boundary in order to meet the objectives of the Program. This joint EIS/EIR will provide a program level analysis supporting both the Navy NEPA requirements to describe potential environmental impacts associated with the property disposal at FISCO, and the Port of Oakland CEQA requirement to analyze environmental impacts of implementing the Vision 2000 Program.

The EIS/EIR will evaluate a "No Action" Alternative and several reuse alternatives. The "No Action" Alternative would result in the federal government indefinitely retaining ownership of FISCO property. Under the "No Action" Alternative the Navy would continue leasing property to the Port of Oakland under existing 50 year lease agreement as allowed by Public Law 102-484, and supported by the 1995 base closure decisions. The reuse alternatives are expected to combine the common land use components of a railroad terminal, marine terminals, public waterfront access and marine habitat enhancement. As FISCO is within the Port of Oakland jurisdiction and is designated as a Port Priority use in the April 1996 San Francisco Bay Conservation and Development Commission and the Metropolitan Transportation Commission Seaport Plan Update, alternatives would emphasize port-related activities. Revisions to these alternatives may be developed during the public scoping period. The EIS/EIR will evaluate the potential for environmental impacts to traffic conditions, air quality, biological resources, cultural resources, utilities, and other environmental issues through this scoping process.



Federal, state and local agencies, and interested individuals are encouraged to participate in the scoping process for the EIS/EIR to determine the range of issues and reuse alternatives to be addressed. A **public scoping meeting** to receive oral and written comments will be held on **Thursday June 13, 1996 at 7:00 p.m., at the McClymonds High School auditorium** located on 2607 Myrtle Street (near 26th Street) in Oakland, California. In the interest of available time, each speaker will be asked to limit oral comments to five (5) minutes.

In addition, written comments may be submitted by July 1, 1996 to Mr. Gary J. Munekawa, Environmental Planning Branch, Code 185GM, Engineering Field Activity West, Naval Facilities Engineering Command, 900 Commodore Drive, San Bruno, California 94066-5006, telephone 415-244-3022, fax 415-244-3737. For further information regarding the Port of Oakland Vision 2000 Program please contact Ms. Loretta Meyer, Port of Oakland, Environmental Assessment Section, 530 Water Street, Oakland, CA 94607, telephone 510-272-1181, or fax 510-465-3755.

A handwritten signature in dark ink, reading "John H. Kennedy". The signature is written in a cursive style with a large, looping initial "J".

**ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT  
FOR DISPOSAL AND REUSE OF FLEET INDUSTRIAL AND SUPPLY CENTER  
OAKLAND (FISCO), CALIFORNIA  
INFORMATION SHEET**

**Federal and State Lead Agencies for EIS/EIR Preparation**

The United States Navy and the Port of Oakland are preparing a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to evaluate the environmental consequences potentially resulting from the proposed disposal and reuse of the Fleet Industrial and Supply Center, Oakland (FISCO), property and structures in Oakland, California. The Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as implemented by the 1995 base closure process, directs the Navy to close FISCO. The Navy is authorized to convey the property from Navy ownership under Public Law 102-484, Section 2834, as amended by Public Law 104-106, Section 2867. Full operational closure is scheduled to occur in September of 1998. The Navy will be the lead agency for documentation pursuant to the National Environmental Policy Act (NEPA) as it applies to impacts potentially resulting from disposal of FISCO property and structures. The Port of Oakland will be the lead agency for documentation pursuant to the California Environmental Quality Act (CEQA) as it applies to impacts potentially resulting from implementation of its Vision 2000 Program.

**Scope of EIS/EIR Analysis**

The EIS/EIR will address the potential impacts to the environment that may result from the disposal of the FISCO property by the Navy and subsequent reuse of FISCO. FISCO is within the planning jurisdiction of the Port of Oakland and has been used as a Navy port supply and administrative facility. The Port of Oakland's Vision 2000 Program proposes development of an intermodal system of ship, railroad, and truck freight facilities to meet the anticipated demand for transportation services in the San Francisco Bay area and northern California, and an intermodal port for national and international commerce. The Vision 2000 Program also includes development of public waterfront access and marine habitat enhancement.

The EIS/EIR will examine the potential environmental impacts of four Vision 2000 Program alternatives: (1) a Maximum Marine Terminal/Maximum Rail Terminal Alternative (Alternative A); (2) a Minimum Marine Terminal/Minimum Rail Terminal Alternative (Alternative B); (3) a Maximum Marine Terminal/Minimum Rail Terminal Alternative (Alternative C); and (4) a Reduced Fill Alternative (Alternative D). Although revisions to alternatives may be refined during the public scoping period, these four alternatives are expected to combine the common land use components of a joint intermodal terminal, marine terminals, and public waterfront access and marine habitat enhancement. The No Action Alternative would result in the federal government indefinitely retaining ownership of FISCO property. Under the No Action Alternative, the Navy would continue leasing property to the Port under the existing 50-year lease agreement as allowed by Public Law 102-484, as amended, and supported by the 1995 base closure decisions.

**Purpose of This Public Scoping Hearing and the Public Involvement Program**

The purpose of this public scoping meeting is to solicit public comments regarding the scope and content of the environmental document prior to its publication as a Draft EIS/EIR. Written comments must be postmarked no later than July 1, 1996, in order to assure their full consideration in the EIS/EIR preparation. This hearing is part of the overall public involvement program established for the EIS/EIR for Disposal and Reuse of FISCO. The Port of Oakland also plans additional meetings regarding the overall Vision 2000 Program.

## **Schedule for Receiving Further Public Input**

Further public input will be solicited following publication of the Draft EIS/EIR in early 1997. Public comment on the Draft EIS/EIR will continue through a 45-day public review period and will also include one more public hearing. Written responses to public comments received on the Draft EIS/EIR will be prepared and included in the final document. If you would like to submit written comments or wish to be added to the Navy mailing list for future information, please forward your comments and/or your name and address to the following contact person and address:

Mr. Gary Munekawa, Code 1852GM  
Engineering Field Activity West  
Naval Facilities Engineering Command  
900 Commodore Drive  
San Bruno, CA 94066-5006

Telephone (415) 244-3022  
Fax (415) 244-3737

## **LOCATION, DESCRIPTION, AND HISTORY OF FISCO**

### **Location and Description of the FISCO Site**

FISCO is located approximately two miles west of the City of Oakland central business district, on the eastern shoreline of San Francisco Bay. FISCO consists of approximately 528 acres and is bounded by 7th Street on the north, the Southern Pacific West Oakland railyard on the east, the Union Pacific railyard on the south, and Middle Harbor to the west. Existing facilities include about 125 structures that support general supply operations, waterfront operations, and administration.

### **History**

In 1940, the Port of Oakland sold approximately 400 acres of uplands property to the Navy for one dollar. This property sale was recorded with a reversionary clause stating that the deed would revert back to the Port should the Government decide not to use the property for a naval supply depot, or other naval or military purposes. The Navy subsequently purchased additional lands to expand FISCO which do not revert to the Port of Oakland. Currently, approximately 400 acres of FISCO will automatically revert to the Port of Oakland. An additional 140 acres acquired by the Navy will not automatically revert to the Port of Oakland. The Navy is required to close FISCO and must convey these 140 acres from Navy ownership.

The site purchased by the Navy occupies former tidal marshlands that were dredged and filled in 1940. In 1941, the Naval Supply Center Oakland (FISCO's former name) began support operations for World War II. After the war and through the 1980s, FISCO was the main supply facility supporting Department of Defense activities in the Pacific Basin. The mission of FISCO was to provide supply and support services to fleet units and shore activities, as assigned.

Since the mid-1980s, the Port has been engaged in negotiations to acquire surplus Navy property for development and expansion of maritime and transportation-related facilities. Under the provisions of Public Law 102-484 (Section 2834[b]) of the Defense Authorization Act of 1993, the Navy is authorized to lease portions of FISCO to the Port for a period of 50 years. In late 1993, the Port successfully concluded negotiations with the Navy to acquire the first parcel of 220 acres of Navy property to expand intermodal rail facilities and maritime-cargo-related tenant uses. To date, approximately 135 acres of this leased area is in use as general transportation support activities, including warehousing, container depot activities, transloading, and container freight stations. The Port and Navy are currently working towards leasing the remaining FISCO property. Public Law 102-484 was amended to allow the Navy to transfer the 140 acres to the Port which do not automatically revert to the Port.



Development of the Vision 2000 Program is expected to require additional property outside the FISCO boundary to meet the Program's objectives. This non-Navy property may include the following parcels:

- Union Pacific's West Oakland Railyard owned by the Port (78 acres);
- Union Pacific's West Oakland Railyard owned by Union Pacific (9 acres);
- Southern Pacific's West Oakland Railyard (133 acres);
- Don-Gary lease owned by the Port (9 acres);
- Port-owned property rented on a space assignment basis (5 acres); and
- Oakland Army Base (11 - 26 acres).

## **VISION 2000 PROGRAM - ALTERNATIVES DEVELOPMENT**

The Port of Oakland has investigated several land use configurations that combine different acreages of common land uses. These uses and configurations reflect development opportunities that meet the Port's overriding goals to increase productivity, to improve efficiency of integrated intermodal services, and to provide needed employment and open space opportunities. Land uses included as part of all four Vision 2000 Program alternatives to be analyzed in the EIS/EIR include:

- (a) An intermodal rail terminal (including working tracks, support tracks, and parking) could range between 190 and 340 acres.
- (b) Marine terminals development (including up to five new berths) could range between 122 and 278 acres.
- (c) A public waterfront access and marine habitat enhancement area could range up to 155 acres and would be located in the Middle Harbor Basin.

The attached table and maps are provided to assist you in contributing comments to this public involvement program. They include: (1) A table summarizing the main features of the four Vision 2000 Program alternatives; (2) A site map that identifies individual parcels; (3) A map of the Maximum Marine Terminal/Maximum Rail Terminal Alternative (Alternative A); (4) A map of the Minimum Marine Terminal/Minimum Rail Terminal Alternative (Alternative B); (5) A map of the Maximum Marine Terminal/Minimum Rail Terminal Alternative (Alternative C); and (6) A map of the Reduced Fill Alternative (Alternative D).

## **ENVIRONMENTAL ISSUES TO BE EVALUATED IN THE EIS/EIR**

Although the issues of special concern may change as the EIS/EIR scoping process continues, the following issues have been initially identified as particularly sensitive to future development activities in the Vision 2000/FISCO project area:

- Traffic and circulation impacts associated with railroad, truck, and automobile operations;
- Land use conflicts;
- Socioeconomic impacts regarding changes to local employment, income, population, and housing characteristics, as well as the potential for adverse disproportionate effects on minority and low-income populations;
- Impacts on cultural resources;
- Impacts to sensitive biological habitat along the shoreline;
- Air quality and noise issues related to proposed development;
- Geologic and hydrologic conditions affecting development; and
- Identification and remediation of hazardous materials and hazardous waste.

The EIS EIR will describe the existing conditions environmental setting, identify significant and less than significant impacts due to disposal and proposed reuse, and will recommend mitigation measures for significant impacts identified for the following resources or categories of investigation:

|                                 |                      |                               |
|---------------------------------|----------------------|-------------------------------|
| Land Use                        | Geology and Soils    | Traffic and Transportation    |
| Socioeconomics                  | Biological Resources | Utilities                     |
| Aesthetics and Scenic Resources | Air Quality          | Hazardous Materials and Waste |
| Public Services                 | Noise                | Cultural Resources            |
| Water Resources                 | Cumulative Effects   |                               |

For specific information concerning the Vision 2000 Program, please contact Ms. Loreta Meyer, Port of Oakland, Environmental Assessment Department, at telephone (510) 272-1181 or fax number (510) 465-3755. Thank you for participating with the Navy and the Port in the environmental planning process.

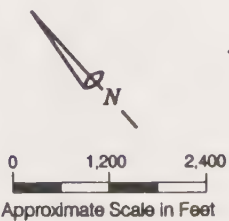
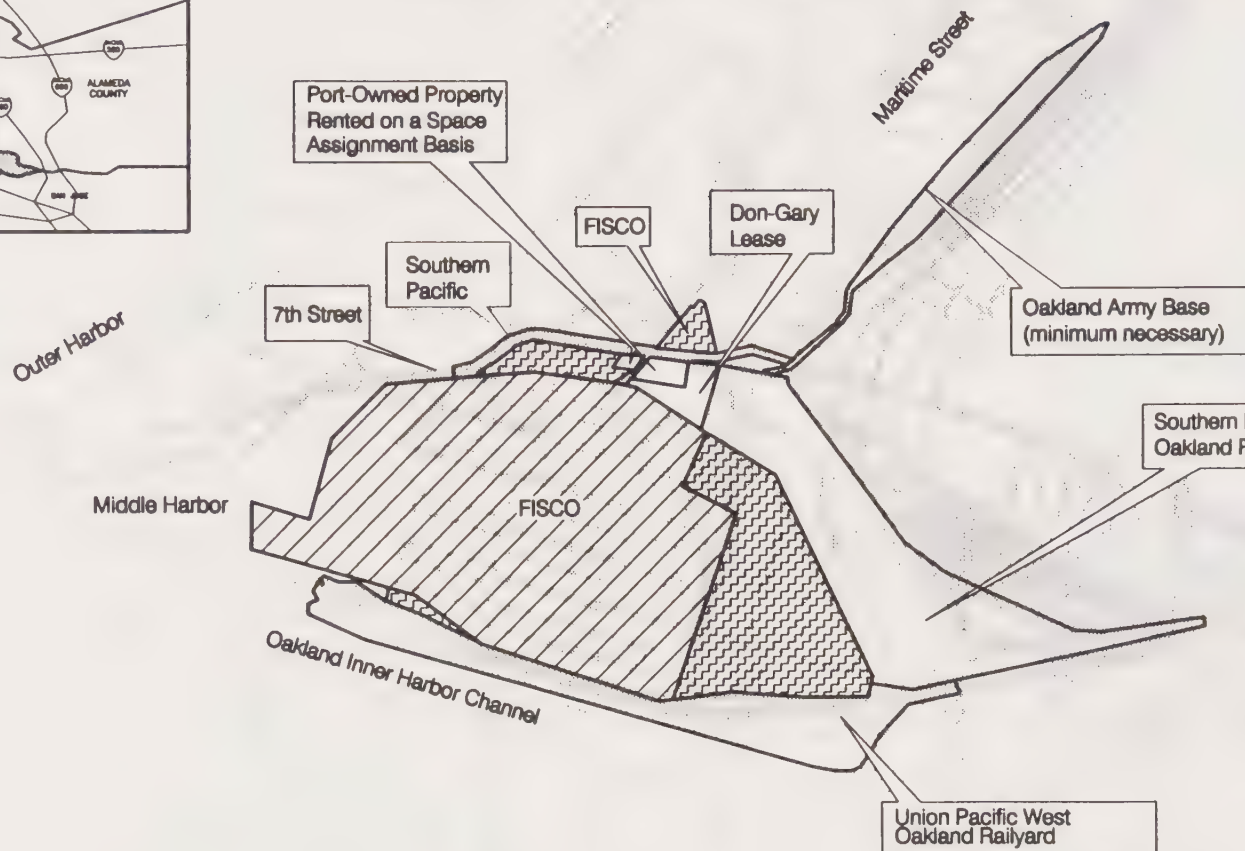
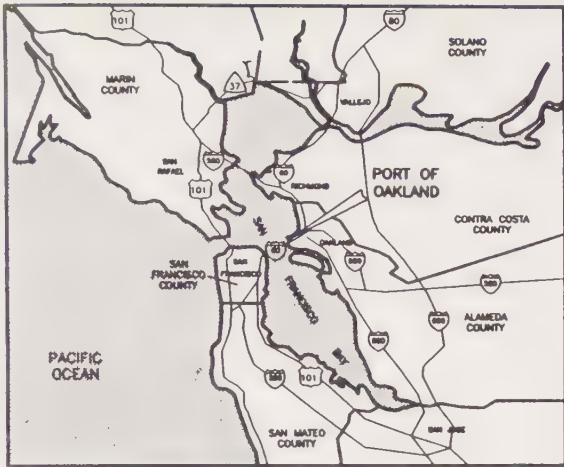
**Alternatives Summary**  
**Environmental Impact Statement/Environmental Impact Report for**  
**Disposal and Reuse of Fleet Industrial and Supply Center, Oakland**

|   | Maximum Marine<br>Terminal/Maximum<br>Rail Terminal<br>Alternative<br>(Alternative A) | Minimum Marine<br>Terminal/Minimum<br>Rail Terminal<br>Alternative<br>(Alternative B) | Maximum Marine<br>Terminal/Minimum<br>Rail Terminal<br>Alternative<br>(Alternative C) | Reduced Fill<br>Alternative<br>(Alternative D) |
|---|---|---|---|--|
| <b>RAILROAD TERMINAL</b>                  |   |   |   |  |
| Size (acres)                              | 342 +/-   | 190 +/-   | 190 +/-   | 320 +/-  |
| Rail Service                              | Southern Pacific &<br>Union Pacific   | Burlington Northern-<br>Santa Fe  | Burlington Northern-<br>Santa Fe  | Southern Pacific &<br>Union Pacific            |
| <b>Loading Tracks</b>                     |   |   |   |  |
| Number of Tracks                          | 7   | 8   | 8   | 7  |
| Total track feet                          | 46,275  | 35,655  | 35,655  | 48,266   |
| Number of Car Spots                       | 151   | 116   | 116   | 156  |
| <b>Support Tracks - Oakland Army Base</b> |   |   |   |  |
| Number of Tracks                          | 24  | NA <sup>1</sup>   | 9 <sup>2</sup>  | NA   |
| Total Track Feet                          | 76,700  | NA  | 39,657  | NA   |
| Number of Car Spots                       | 241   | NA  | TBD   | NA   |
| Acres                                     | 26  | NA  | 11  | NA   |
| <b>Parking Slots</b>                      |   |   |   |  |
| Center-Row                                | 3,823   | 2,950   | 2,950   | 4,316  |
| Satellite                                 | 1,350   | 702   | 702   | 1,215  |
| Chassis Slots                             | 2,860   | 900   | 900   | 1,500  |
| <b>MARINE TERMINALS</b>                   |   |   |   |  |
| Size (acres)                              | 260 +/-   | 100 +/- (Middle<br>Harbor)<br>22 +/- (Outer Harbor)                                   | 290 +/-   | 278 +/-  |
| Location                                  | Inner Harbor  | Middle/Outer Harbors  | Inner Harbor  | Inner Harbor                                   |
| Depth (feet)                              | 1,890   | 2,000/1,400   | 1,800-2,578   | 1,726-2,313                                    |
| <b>Berths</b>                             |   |   |   |  |
| Number                                    | Five  | Two   | Five  | Five   |
| Length (feet)/berth                       | 1,200   | 1,200   | 1,200   | 1,200  |
| Increase Inner Harbor Channel Width?      | no  | no  | no  | yes (new channel<br>width = 730' +/-)          |
| <b>MITIGATION AREA</b>                    |   |   |   |  |
| Size (acres)                              | 155   | 55  | 155   | 155  |
| <b>Harbor Transportation Center</b>       |   |   |   |  |
| Relocate HTC offsite?                     | yes   | no  | yes   | yes  |
| <b>ONSITE INFRASTRUCTURE</b>              |   |   |   |  |
| Relocate Middle Harbor Road?              | yes   | no  | no  | yes  |
| Grade-Separated Access @ Main Gate?       | no  | yes   | yes   | yes  |
| <b>FILL</b>                               |   |   |   |  |
| Total Fill Removed (acres)                | (-27.82)  | (-20.74)  | (-27.82)  | (-51.96)                                       |
| Total Fill Placed (acres)                 | 65.12   | 56.15   | 38.17   | 38.17  |
| Total Net Fill (acres)                    | 37.30   | 35.41   | 10.35   | (-13.79)                                       |



<sup>1</sup> Not applicable

<sup>2</sup> Another support track storage option is to develop all of it on FISCO property.





**LEGEND:**

-  FISCO Property Subject to Reversion to Port
-  Nonreversionary FISCO Property

## Vision 2000 Maritime Development/FISCO

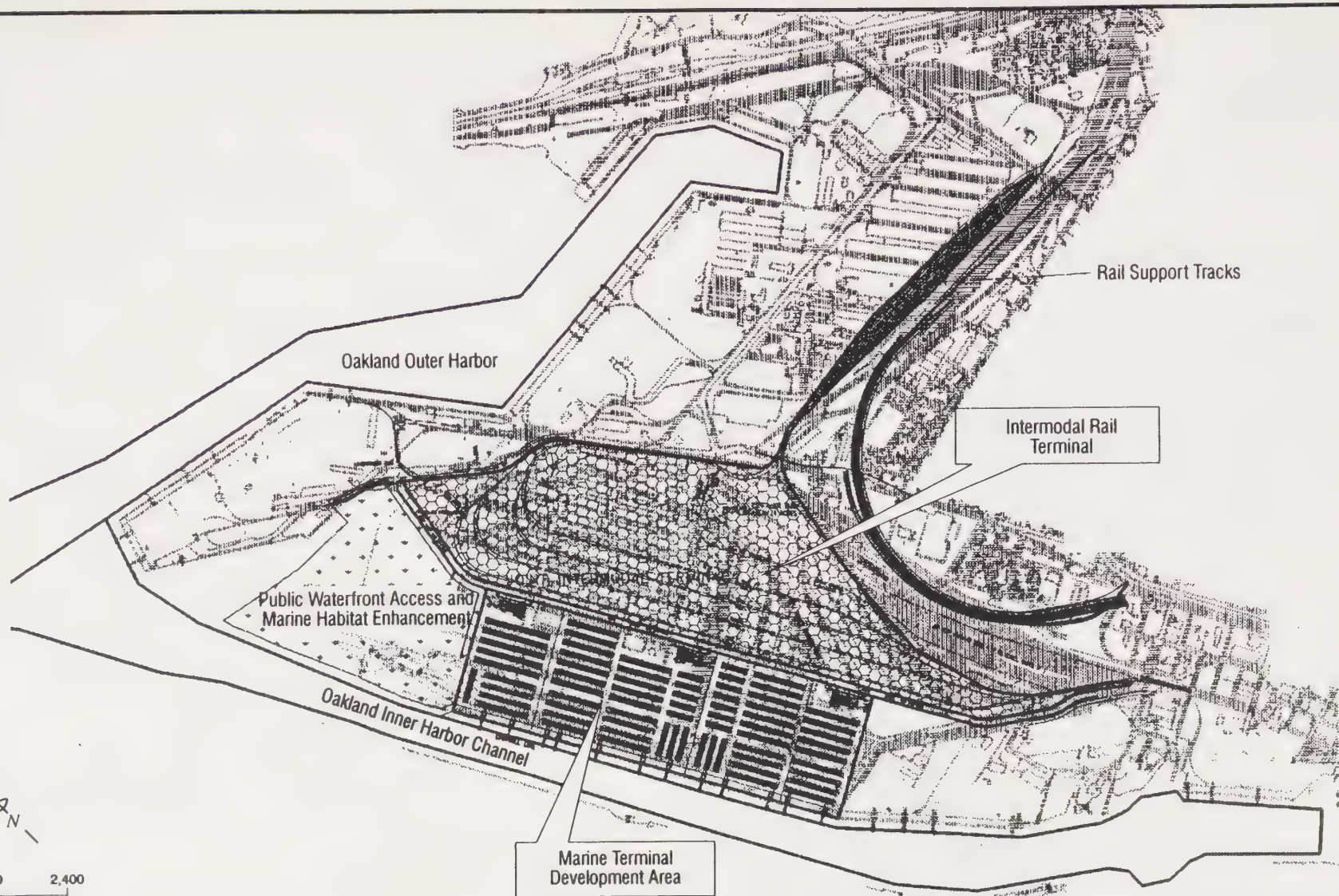
### Site Map

Port of Oakland



D-9

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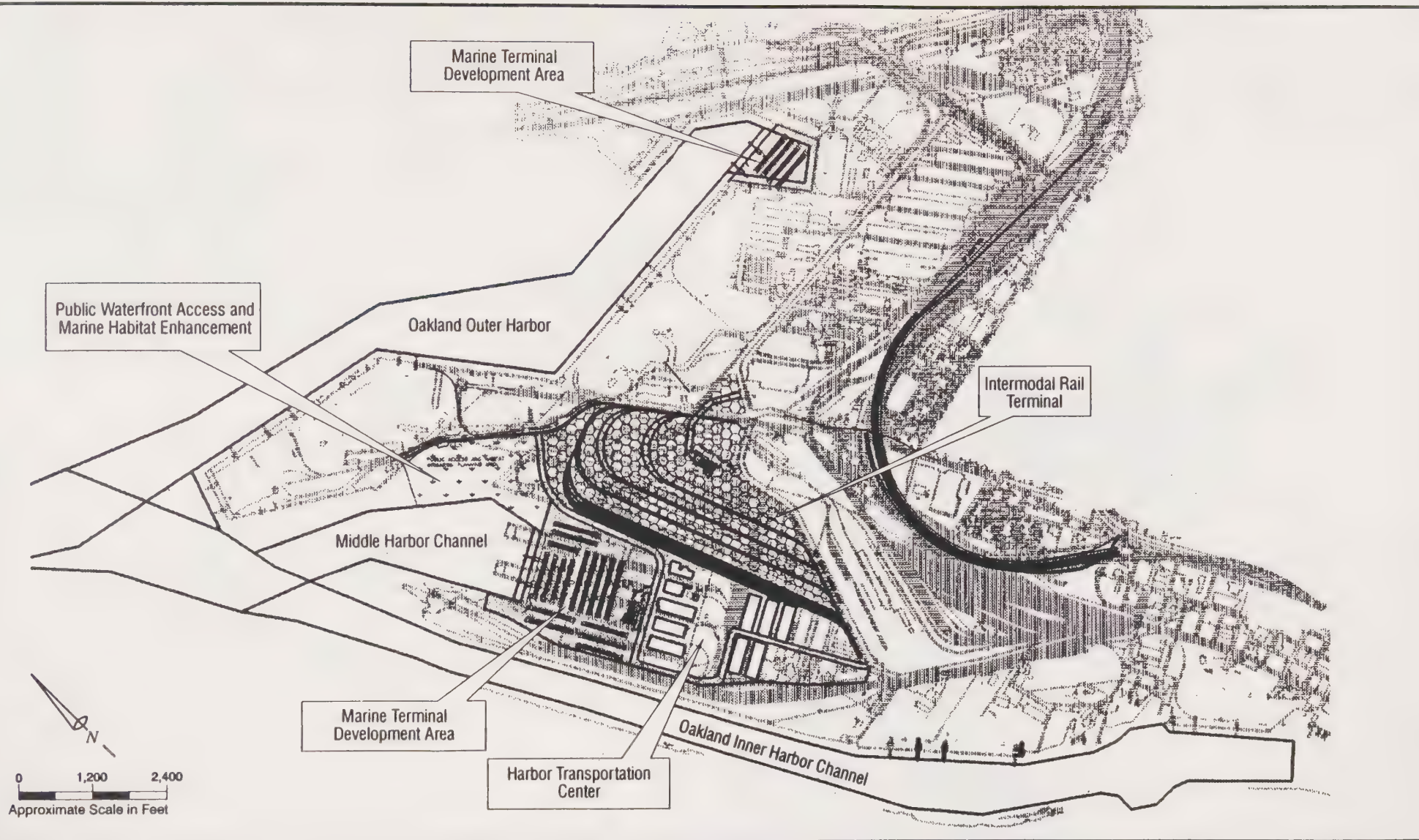
***Vision 2000 Maritime Development/  
FISCO Alternatives***  
**Maximum Marine Terminal/Maximum Rail Terminal Alternative**  
**(Alternative A)**





D-10

0770102.C.dtd - 05/06/96 - MY



***Vision 2000 Maritime Development/  
FISCO Alternatives***  
**Minimum Marine Terminal/Minimum Rail Terminal Alternative**  
**(Alternative B)**

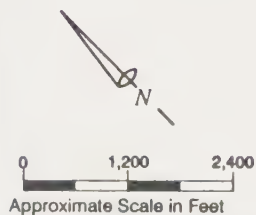


Source: Port of Oakland, 1996





D-11



Oakland Outer Harbor

Public Waterfront Access and  
Marine Habitat Enhancement

Oakland Inner Harbor Channel

Marine Terminal  
Development Area

Intermodal Rail  
Terminal

Rail Support Tracks

## *Vision 2000 Maritime Development/ FISCO Alternatives*

**Maximum Marine Terminal/Minimum Rail Terminal Alternative**

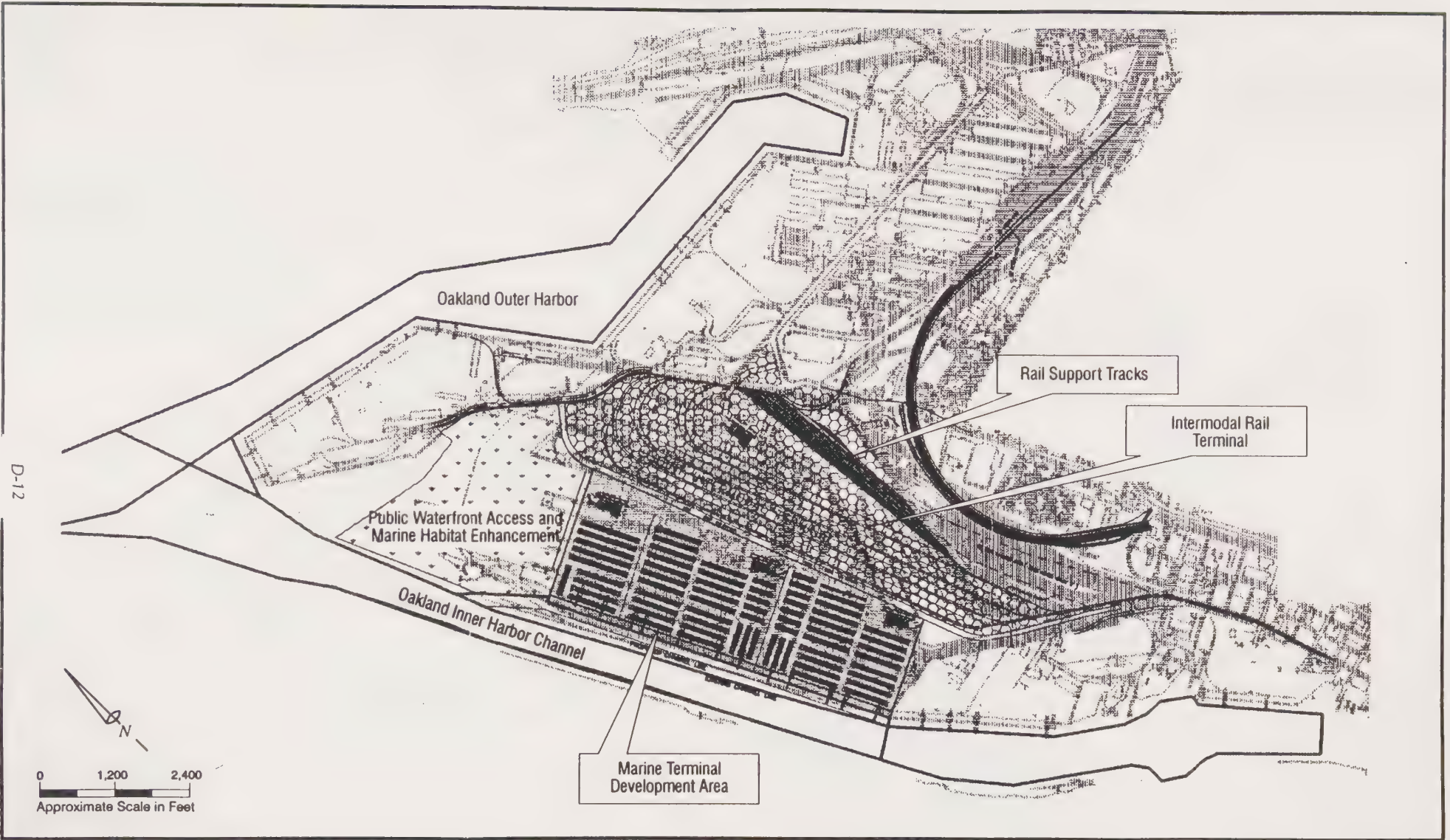
**(Alternative C)**

Port of Oakland



Source: Port of Oakland, 1996





***Vision 2000 Maritime Development/  
FISCO Alternatives***  
**Reduced Fill Alternative**

**(Alternative D)**





[Federal Register: May 30, 1996 (Volume 61, Number 105)]

[Notices]

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From the Federal Register Online via GPO Access [wais.access.gpo.gov]

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# DEPARTMENT OF DEFENSE

## Department of the Navy

Notice of Intent To Prepare a Joint Environmental Impact Statement/Environmental Impact Report for the Proposed Disposal and Reuse of the Fleet and Industrial Supply Center Oakland, CA

SUMMARY: Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500-1508), the California Environmental Quality Act (CEQA), and Public Law 102-484 Section 2834, as amended by Public Law 104-106 Section 2867, the Department of the Navy, in association with the Port of Oakland, California, announces its intent to prepare a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the proposed disposal and reuse of the Fleet and Industrial Supply Center, Oakland (FISCO) property and structures in Oakland, California. The Navy will be the lead agency for NEPA documentation and the Port of Oakland will be the lead agency for CEQA documentation. The Defense Base Closure and Realignment Act (Public Law 101-510) of 1990, as implemented by the base closure process of 1995, directed the Navy to close FISCO.

FISCO is located approximately two miles west of the Oakland central business district, on the eastern shore of San Francisco Bay. FISCO consists of approximately 528 acres and has about 125 structures that support general supply operations, waterfront operations, and administration.

The EIS/EIR will address potential impacts to the environment that may result from the disposal of FISCO property and subsequent reuses. FISCO is within the planning jurisdiction of the Port of Oakland. The Port of Oakland Vision 2000 Program proposes development of an intermodal system of ship, railroad, and truck freight handling facilities to meet the anticipated demand for transportation services in the San Francisco Bay area and northern California, and an intermodal port for national and international commerce. The Vision 2000 Program also includes development of public waterfront access and marine habitat enhancement.

The development of the Port of Oakland Vision 2000 Program is expected to require additional property outside of the FISCO boundary in order to meet the objectives of the Program. This joint EIS/EIR will provide a program level analysis supporting both the Navy NEPA requirements to describe potential environmental impacts associated with the property disposal at FISCO, and the Port of Oakland CEQA requirement to analyze environmental impacts of implementing the Vision 2000 Program.

The EIS/EIR will evaluate a "No Action" alternative and several reuse alternatives. The "No Action" alternative would result in the federal government indefinitely retaining ownership of FISCO property. Under the "no action" alternative the Navy would continue leasing property to the Port of Oakland under the existing 50 year lease agreement as allowed by Public Law 102-484, and supported by the 1995 base closure decisions. The reuse alternatives are expected to combine the common land use components of a railroad terminal, marine terminals, public waterfront access and marine habitat enhancement. As FISCO is within the Port of Oakland jurisdiction and is designated as a Port Priority use in the April 1996 San Francisco Bay Conservation and Development Commission and the Metropolitan Transportation Commission



Seaport Plan Update, alternatives would emphasize port-related activities. Revisions to these alternatives may be developed during the public scoping period. The EIS/EIR will evaluate the potential for environmental impacts to traffic conditions, air quality, biological resources, cultural resources, utilities, and other environmental issues identified through this scoping process.

ADDRESSES: Federal, state and local agencies, and interested individuals are invited to participate in the scoping process to determine the range of issues and reuse alternatives to be addressed. A public scoping meeting to receive oral and written comments will be held on Thursday, June 13, 1996, at 7:00 p.m., at the McClymonds High School auditorium, located at 2607 Myrtle Street (near 26th Street) in Oakland, California. In the interest of available time, each speaker will be asked to limit oral comments to five minutes. In addition, written comments may be submitted by July 1, 1996, to Mr. Gary J. Munekawa, Environmental Planning Branch, Code 185GM, Engineering Field Activity West, Naval Facilities Engineering Command, 900 Commodore Drive, San Bruno, California 94066-5006, telephone (415) 244-3022, fax (415) 244-3737. For further information regarding the Port of Oakland Vision 2000 Program, please contact Ms. Loretta Meyer, Port of Oakland, Environmental Assessment Section, 530 Water Street, Oakland, California 94604, telephone (510) 272-1181, fax (510) 465-3755. If you need special assistance to participate in this meeting, please contact Mr. Munekawa at least 72 hours prior to the meeting.

Dated May 23, 1996

S.L. Haycock,  
LCDR, JAGC, USN, Alternate Federal Register Liaison Officer.  
[FR Doc. 96-13460 Filed 5-29-96; 8:45 am]  
BILLING CODE 3810-FF-P

**Governor's Office of Planning and Research**1400 Tenth Street  
Sacramento, CA 95814OAKLAND  
ENVIRONMENTAL DEPT.

06 JUN 10 09:44

DATE: June 4, 1996  
TO: Reviewing Agencies  
RE: DISPOSAL AND REUSE OF FLEET INDUSTRIAL AND SUPPLY  
SCH# 96062010

RECEIVED

Attached for your comment is the Notice of Preparation for the DISPOSAL AND REUSE OF FLEET INDUSTRIAL AND SUPPLY draft Environmental Impact Report (EIR).

Responsible agencies must transmit their concerns and comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of this notice. We encourage commenting agencies to respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

JAMES MCGRATH  
PORT OF OAKLAND  
530 WATER STREET  
OAKLAND, CA 94607

with a copy to the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the review process, call Kristen Derscheid at (916) 445-0613.

Sincerely,

A handwritten signature in dark ink, reading "Antero A. Rivasplata".

ANTERO A. RIVASPLATA  
Chief, State Clearinghouse

Attachments

cc: Lead Agency

## NOP Distribution List

S = sent by lead agency

X = sent by SCH

## Resources Agency

☒ Nadell Gayou  
Resources Agency  
1020 Ninth Street, Third Floor  
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916/327-1722 Fax 916/327-1648

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## Health &amp; Welfare

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## Fish and Game - Regional Offices

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☒ Ken Aasen, Acting Regional Manager  
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707/944-5518 Fax 707/944-5563

☐ George Nokes, Regional Manager  
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1234 East Shaw Avenue  
Fresno, CA 93710  
209/445-6152 Fax 209/445-6607

☐ Department of Fish and Game  
Environmental Services  
330 Golden Shore, Suite 50  
Long Beach, CA 90802  
310/590-5132 Fax 310/590-5192

## Independent Commissions/Agencies

☐ California Energy Commission  
1516 Ninth Street, MS-15  
Sacramento, CA 95814  
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☒ Native American Heritage Comm.  
915 Capitol Mall, Room 364  
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916/653-4082 Fax 916/657-5390

☐ Douglas Long  
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505 Van Ness Avenue  
San Francisco, CA 94102  
415/703-2011 Fax 415/703-1965

☒ Betty Silva  
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100 Howe Avenue, Suite 100 South  
Sacramento, CA 95825  
916/574-1872 Fax 916/574-1885

☐ Gerald R. Zimmerman  
Colorado River Board  
770 Fairmont Avenue, Suite 100  
Glendale, CA 91203-1035  
818/543-4676 Fax 818/543-543-4685

☐ Tahoe Regional Planning  
Environmental Review  
P.O. Box 1038  
Zephyr Cove, NV 89448  
702/588-4547 Fax 702/588-4527

☐ Thomas Ottoman  
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P.O. Box 29998  
San Francisco, CA 94129  
415/666-9300

☐ Debby Eddy  
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Walnut Grove, CA 95690  
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☒ Mark deBie  
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☐ Wayne Hubbard  
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Division of Clean Water Programs  
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☐ Dept. of Toxic Substances Control  
CEQA Trucking Center  
400 P Street, Fourth Floor  
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Sacramento, CA 95812-0806  
916/324-3119 Fax 916/324-1788

## Regional Water Quality Control Board

☐ NORTH COAST REGION (1)  
5550 Skyline Blvd., Suite A  
Santa Rosa, CA 95403  
707/576-2220 Fax 707/523-0135

☒ SAN FRANCISCO BAY REGION (2)  
2101 Webster, Suite 500  
Oakland, CA 94612  
510/286-1255 Fax 510/286-1380

☐ CENTRAL COAST REGION (3)  
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San Luis Obispo, CA 93401-5427  
805/549-3147 Fax 805/543-0397

☐ LOS ANGELES REGION (4)  
101 Centre Plaza Drive  
Monterey Park, CA 91754-2156  
213/266-7556 Fax 213/266-7600

☐ CENTRAL VALLEY REGION (5)  
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Sacramento, CA 95827-3098  
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☐ Redding Branch Office  
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Redding, CA 96002  
916/224-4845 Fax 916/224-4857

☐ LAHONTAN REGION (6)  
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South Lake Tahoe, CA 96150  
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☐ Victorville Branch Office  
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Victorville, CA 92392-2359  
619/241-6583 Fax 619/241-7308

☐ COLORADO RIVER BASIN  
REGION (7)  
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Palm Desert, CA 92260-2564  
619/346-7491 Fax 619/341-6820

☐ SANTA ANA REGION (8)  
3737 Main Street, Suite 500  
Riverside, CA 92501-3339  
714/782-4130 Fax 909/781-6288

☐ SAN DIEGO REGION (9)  
9771 Clairemont Mesa Blvd., Suite B  
San Diego, CA 92124-1331  
619/467-2952 Fax 619/571-6972

☐ OTHER: \_\_\_\_\_

☐ OTHER: \_\_\_\_\_



UNITED STATES NAVY

# NEWS RELEASE

ENGINEERING FIELD ACTIVITY WEST

NAVAL FACILITIES ENGINEERING COMMAND (NAVFAC)

900 COMMODORE DRIVE • SAN BRUNO, CA 94066

FOR IMMEDIATE RELEASE  
Release # 96-04

For more information contact  
Jeff Young  
Phone (415) 244-3041  
Fax: (415) 244-3010

## **Navy and Port of Oakland to prepare FISCO Environmental Impact Statement**

The United States Navy and the Port of Oakland will prepare a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to evaluate the environmental impacts of disposal and reuse of the Fleet Industrial and Supply Center, Oakland (FISCO).

The Navy will be the lead agency for National Environmental Policy Act (NEPA) documentation and the Port of Oakland will be the lead agency for California Environmental Quality Act (CEQA) documentation. The Defense Base Closure and Realignment Act of 1990, as implemented by the 1995 base closure process, directs the Navy to close FISCO.

The EIS/EIR will address potential impacts to the environment that may result from the conveyance of the FISCO property by the Navy and subsequent reuse of FISCO by the community.

FISCO is within the planning jurisdiction of the Port of Oakland and has been used as a Navy port supply and administrative facility. The Port of Oakland's "Vision 2000" program proposes development of an intermodal system of ship, railroad, and truck freight facilities to meet the anticipated demand for transportation services in the San Francisco Bay area and northern California, and an intermodal port for national and international commerce. Vision 2000 also includes development of public waterfront access and marine habitat enhancement. Development of the Vision 2000 program is expected to require additional property outside of the FISCO boundary in order to meet its objectives.

The EIS/EIR will examine the potential environmental impacts of four Vision 2000 Program alternatives. The "No Action Alternative," which would result in the federal government indefinitely retaining ownership of FISCO property, will also be evaluated. Under the No Action Alternative, the Navy would continue leasing property to the Port under the existing 50-year lease agreement as allowed by Public Law 102-484, and supported by the 1995 base closure decisions.

Environmental issues addressed in the EIS/EIR are expected to include land use, visual resources, socioeconomics, public services, cultural resources, biological resources, geology and soils, water resources, air quality, noise, traffic and transportation, utilities, and hazardous materials and waste.

The Draft EIS/EIR is expected to be published in early 1997. A public hearing and a 45-day review period will follow the publication and distribution of the Draft EIS/EIR.

**A public hearing will be held on Thursday, June 13, 1996, at 7 p.m., at McClymonds High School, 2607 Myrtle Street, in Oakland.** The purpose of this hearing is to receive written and verbal comments regarding the potential environmental impacts of disposal and reuse of FISCO. A brief presentation will precede the request for public comment. Navy and Port of Oakland representatives will be available at the hearing to receive comments from the public regarding issues of concern. It is important that federal, state, and local agencies and interested individuals take this opportunity to identify environmental concerns that should be addressed during the preparation of the EIS/EIR.

Agencies and the public are also invited and encouraged to provide written comments in addition to, or in lieu of, oral comments at the public hearing. To be most helpful, scoping comments should clearly describe specific issues or topics which the commentor believes the EIS/EIR should address.

The public is invited to submit written comments by July 1, 1996 to Gary Munekawa, Code 1852, Engineering Field Activity West, Naval Facilities Engineering Command, 900 Commodore Drive, San Bruno, California 94066-2402, (415) 244-3022, Fax (415) 244-3737. For further information regarding the Port of Oakland Vision 2000 Program, contact Loretta Meyer, Port of Oakland, 530 Water Street, Oakland, California 94604-2064, telephone (510) 272-1181, fax (510) 465-3755.

UNITED STATES NAVY

# FACT SHEET

ENGINEERING FIELD ACTIVITY WEST

NAVAL FACILITIES ENGINEERING COMMAND (NAVFAC)

900 COMMODORE DRIVE • SAN BRUNO, CA 94066

For more information contact

Jeff Young

Phone (415) 244-3041

Fax: (415) 244-3010

- Site:** Fleet Industrial Supply Center, Oakland (FISCO)
- Location:** In the vicinity of the Port of Oakland's Middle Harbor at the northwest mouth of the Oakland estuary.
- Mission:** FISCO (formerly called Naval Supply Center, Oakland), is the principal facility supporting Department of Defense activities in the Pacific Basin and is the Navy's largest west coast supply point. It's primary function is to provide support and supply services to fleet units and shore activities. In general, the facility has been used for storage and supply purposes. Very little manufacturing or industrial activity has occurred over the years.
- Size:** The installation encompasses approximately 529 acres and has about 125 structures.
- Opened:** The facility was established in 1941 to support the Navy during World War II.
- Closure:** September 1998
- BRAC'd:** BRAC 4, 1995
- Status:** Daily operations will cease at the base in September 1998. The installation will then be placed in a caretaker status, with the Navy's Engineering Field Activities West acting as the landlord, until the property is conveyed to the Port of Oakland. Special legislation that allows the Navy to convey the property directly to the Port of



Oakland. Approximately 134 acres of property is now being leased to the Port.

**Cleanup:** The California Environmental Protection Agency is the lead regulatory agency responsible for the cleanup. Several environmental investigations have been conducted between 1977 and the present time, with a total of 99 sites evaluated. Of those sites, 74 showed no potential impact to the environment or public health. The Navy will propose no cleanup action on 12 sites; 13 sites will be addressed in a Record of Decision (ROD). The ROD is expected to be completed by October 1997. Contamination, including Volatile Organic compounds and Total Petroleum hydrocarbons, has occurred in areas where paints, solvents, and hazardous materials were used and/or stored. Preliminary estimates place the cleanup costs at approximately \$42,300,000.

## **SCOPING NEWSPAPER ADVERTISEMENTS**

The following newspaper advertisement announcing the preparation of the Disposal and Reuse of FISCO/Vision 2000 Maritime Development EIS/EIR and the start of the public scoping process was published in the following papers:

San Francisco Chronicle - Sunday, June 2, 1996, and Monday June 3, 1996.

Oakland Tribune - Sunday, June 2, 1996, and Monday June 3, 1996.

Oakland Post - Sunday, June 2, 1996.

## PUBLIC NOTICE

The United States Navy and the Port of Oakland announce their intent to prepare a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to evaluate the environmental impacts of disposal and reuse of the Fleet Industrial and Supply Center, Oakland (FISCO) in Oakland, CA. The Navy will be the lead agency for National Environmental Policy Act (NEPA) documentation and the Port of Oakland will be the lead agency for California Environmental Quality Act (CEQA) documentation. The Defense Base Closure and Realignment Act (Public Law 101-510) of 1990, as implemented by the 1995 base closure process, directs the Navy to close FISCO. The Navy has the authority to dispose of FISCO under Public Law 102-484, Section 2834, as amended by Public Law 104-106, Section 2867, in order to implement the 1995 base closure process decisions.

The EIS/EIR will address the potential impacts to the environment that may result from the disposal of the FISCO property by the Navy and subsequent reuse of FISCO. FISCO is within the planning jurisdiction of the Port of Oakland and has been used as a Navy port supply and administrative facility. The Port of Oakland's Vision 2000 Program proposes development of an intermodal system of ship, railroad, and truck freight facilities to meet the anticipated demand for transportation services in the San Francisco Bay area and northern California, and an intermodal port for national and international commerce. The Vision 2000 Program also includes development of public waterfront access and marine habitat enhancement. Development of the Vision 2000 Program is also expected to require additional property outside of the FISCO boundary in order to meet the Program's objectives.

The EIS/EIR will examine the potential environmental impacts of four Vision 2000 Program alternatives. The No Action Alternative, which would result in the federal government indefinitely retaining ownership of FISCO property, will also be evaluated. Under the No Action Alternative, the Navy would continue leasing property to the Port under the existing 50-year lease agreement as allowed by Public Law 102-484, and supported by the 1995 base closure decisions. Probable environmental issues that will be addressed in the EIS/EIR include, but are not limited to, land use, visual resources, socioeconomic, public services, cultural resources, biological resources, geology and soils, water resources, air quality, noise, traffic and transportation, utilities, and hazardous materials and waste. The Draft EIS/EIR is due to be published in early 1997. A public hearing and a 45-day review period will follow the publication and distribution of the Draft EIS/EIR.

## PUBLIC SCOPING HEARING

will be held  
**Thursday, June 13, 1996, at 7:00 p.m.**

at the following address:

**McCLYMONDS HIGH SCHOOL  
2607 MYRTLE STREET  
OAKLAND, CA**

The purpose of this hearing is to receive written and verbal comments regarding the potential environmental impacts of the disposal and proposed reuse of FISCO. A brief presentation will precede the request for public comment. Navy and Port of Oakland representatives will be available at this hearing to receive comments from the public regarding issues of concern to the public. It is important that federal, state, and local agencies and interested individuals take this opportunity to identify environmental concerns that should be addressed during the preparation of the EIS/EIR.

Agencies and the public are also invited and encouraged to provide written comments in addition to, or in lieu of, oral comments at the public hearing. To be most helpful, scoping comments should clearly describe specific issues or topics which the commentator believes the EIS/EIR should address. Written statements must be received at the address below no later than July 1, 1996.

**MR. GARY MUNAKAWA, CODE 1852GM  
ENGINEERING FIELD ACTIVITY WEST  
NAVAL FACILITIES ENGINEERING COMMAND  
900 COMMODORE DRIVE  
SAN BRUNO, CA 94066-5006  
Telephone (415) 244-3022  
Fax (415) 244-3737**

For further information regarding the Vision 2000 Program, contact Ms. Loretta Meyer, Port of Oakland, 530 Water Street, Oakland, California 94607, telephone (510) 272-1181, fax (510) 465-3755.



**Table D-1**  
**Scoping Summary**

| Commentor   | Form                       | Issues  |
|---|----------------------------|---|
| David Farrel,<br>US Environmental<br>Protection<br>Agency, Region 9 | Letter<br>Dated<br>6/26/96 | <ul style="list-style-type: none"> <li>• Develop alternatives not related to the Vision 2000 Program.</li> <li>• Define all parameters (time, geographic area) relevant to the analysis.</li> <li>• Establish clear statement of purpose and need.</li> <li>• Include non-FISCO property part of Vision 2000 in setting section.</li> <li>• Include analysis of cumulative effects.</li> <li>• Develop “preferred” and “environmentally-preferred” alternatives.</li> <li>• Develop a preferred alternative that balances environmental quality and economic opportunity.</li> <li>• Describe nearby residential areas and potential impacts to these areas.</li> <li>• Describe impact on minority community and low-income population.</li> <li>• Present opportunities for the affected communities to provide input.</li> <li>• Identify specific potential mitigation measures.</li> <li>• Discuss the current air quality status, including: <ul style="list-style-type: none"> <li>– air quality conditions, problems, and planning.</li> <li>– air quality impacts from proposed action.</li> <li>– conformity with State Implementation Plan.</li> <li>– mitigation measures.</li> <li>– project alternatives.</li> </ul> </li> <li>• Identify existing traffic, circulation, and parking patterns.</li> <li>• Identify health, safety, and annoyance issues related to traffic.</li> <li>• Analyze reuse in context of relevant transportation changes.</li> <li>• Identify transit needs related to proposed action.</li> <li>• Work with regional partners to identify impacts from reuse.</li> <li>• Analyze potential future uses for the Oakland Army Base, if to be included as part of the Vision 2000 Program.</li> <li>• Identify existing and projected land use conflicts in West Oakland.</li> <li>• Identify dredging requirements associated with each alternative.</li> <li>• Identify justification for the amount of dredging required.</li> <li>• Characterize baseline conditions for wetlands, aquatic systems, estuaries, and other ecological habitats.</li> <li>• Include a mitigation plan that ensures no net loss of wetlands.</li> <li>• Comply with the following provisions of the Clean Water Act: <ul style="list-style-type: none"> <li>– there is no practicable alternative.</li> <li>– will not contribute to the degradation of waters.</li> <li>– will not violate water quality standards, toxic-effluent standards, or jeopardize the continued existence of species or their habitats.</li> <li>– all steps are taken to minimize adverse impacts.</li> </ul> </li> <li>• Discuss impacts on listed, protected, and endangered species.</li> <li>• Identify critical fisheries habitat.</li> <li>• Identify hazardous materials storage, disposal, contamination history.</li> <li>• Discuss pollution prevention, energy conservation, and waste minimization.</li> <li>• Address potential for adverse health impacts to fishermen.</li> <li>• Identify all archaeological, prehistoric, and historic resources.</li> <li>• Assess impacts to aesthetics, visual resources, or Bay access.</li> <li>• Identify noise contours associated with existing and proposed activities.</li> <li>• Define baseline conditions.</li> <li>• Assess impacts by comparing future conditions to baseline conditions.</li> <li>• Define significance criteria.</li> </ul> |

**Table D-1**  
**Scoping Summary**

| Commentor   | Form                       | Issues   |
|---|----------------------------|--|
| Nicole Gauthier,<br>US Army Corps<br>of Engineers                                     | Letter<br>Dated<br>6/12/96 | <ul style="list-style-type: none"> <li>• Meet with Sacramento District to discuss reuse of the Oakland Army Base.</li> </ul>   |
| John Turner, State<br>of California<br>Department of<br>Fish and Game                 | Letter<br>Dated<br>6/25/96 | <ul style="list-style-type: none"> <li>• Identify and remediate hazardous waste.</li> <li>• Identify natural resources damages from hazardous materials.</li> <li>• Identify impacts on sensitive biological habitat along the shoreline.</li> <li>• Identify impacts on sensitive terrestrial resources.</li> <li>• Develop mitigation for loss of fish and wildlife resources..</li> </ul>   |
| Joe Browne,<br>State of California<br>Department of<br>Transportation                 | Letter<br>Dated<br>6/13/96 | <ul style="list-style-type: none"> <li>• Complete traffic study to determine I-880 and I-980 impacts including:               <ul style="list-style-type: none"> <li>– trip generation, distribution, and management.</li> <li>– average daily traffic, peak hour volumes, and cumulative traffic.</li> <li>– highway and non-highway improvements and services mitigations.</li> <li>– mitigation financing and scheduling.</li> <li>– mitigation implementation and monitoring responsibilities.</li> </ul> </li> </ul>  |
| Liz Black,<br>Historical<br>Resources<br>Information<br>System                        | Letter<br>Dated<br>7/3/96  | <ul style="list-style-type: none"> <li>• Recommend conducting a study to determine if the project area has any unrecorded archaeological sites.</li> <li>• Stop work in any area where archaeological resources are discovered.</li> </ul>   |
| Marc Roddin,<br>Metropolitan<br>Transportation<br>Commission                          | Letter<br>Dated<br>6/4/96  | <ul style="list-style-type: none"> <li>• Consider various channel dredging levels to support marine terminals.</li> <li>• Identify assumptions and methodology for traffic circulation analysis.</li> <li>• Document transportation model used.</li> <li>• Document trip generation, distribution, modal split, and assignment equations in model.</li> <li>• Include only fully funded projects in transportation network.</li> <li>• Provide data supporting the choice of travel behavior assumptions.</li> <li>• Allow for a worst case analysis of traffic impacts.</li> <li>• Present traffic information for interstate, arteries, and internal roads.</li> <li>• Include volume to capacity ratios and level of service with implementation only of fully funded transportation projects.</li> <li>• Discuss unfunded or partly funded transportation projects as project mitigation, with potential funding sources and budgets identified.</li> <li>• Use 2010 or 2015 as analysis year.</li> <li>• Evaluate reducing demand for single occupant automobile.</li> <li>• Evaluate as a partial reuse an overnight truck service complex.</li> </ul> |
| Linda Scourtis,<br>San Francisco Bay<br>Conservation and<br>Development<br>Commission | Letter<br>Dated<br>7/1/96  | <ul style="list-style-type: none"> <li>• Describe BCDC consistency determination authority.</li> <li>• Develop reuse that requires the least possible amount of Bay fill.</li> <li>• BCDC supports Alternative D; removes the greatest amount of fill.</li> <li>• Indicate fill requirement for marine terminal near Berth 10.</li> <li>• Detail new and additional maintenance dredging requirements.</li> <li>• Clarify the increased dredging requirement necessary to create Middle Harbor Channel.</li> <li>• Follow State Water Resources Control Board and Regional Water Quality Control Board policies on water quality.</li> <li>• Maintain/increase bay marsh, mudflat, and water surface area/volume.</li> <li>• Protect marshes and mudflats.</li> <li>• Protect fish and wildlife habitats.</li> <li>• Improve public access to maximum extent possible.</li> <li>• Include appropriate mitigation measures.</li> </ul>  |

**Table D-1  
Scoping Summary**

| Commentor   | Form                       | Issues   |
|---|----------------------------|--|
| Brian Wiese,<br>San Francisco Bay<br>Trail, Association<br>of Bay Area<br>Governments | Letter<br>Dated<br>6/25/96 | <ul style="list-style-type: none"> <li>Address potential opportunities for shoreline public access and the provision of safe access to and on the site for recreational users and commuting cyclists.</li> </ul>   |
| Jean Hart,<br>Alameda County<br>Congestion<br>Management<br>Agency                    | Letter<br>Dated<br>6/20/96 | <ul style="list-style-type: none"> <li>Submit land use data to conduct a CMA-traffic analysis of the project.</li> <li>Include a financial program in transportation mitigation measures.</li> <li>Consider participation in the I-880 corridor transportation planning process as a general mitigation measure for transportation impacts.</li> <li>Address all impacts on the metropolitan transportation system.</li> <li>Analyze roadway level of service standards for 2000 and 2005.</li> <li>Satisfy CMA criteria with transportation mitigation measures.</li> <li>Analyze transit level of service standards, including transit funding as a mitigation measure.</li> <li>Consider impact on transportation demand management measures.</li> <li>Discuss funding sources for roadway and transit improvements.</li> </ul> |
| Colette Meunier,<br>City of Alameda   | Letter<br>Dated<br>6/28/96 | <ul style="list-style-type: none"> <li>Discuss impact of project on traffic through Webster and Posey Tubes.</li> <li>Discuss impact of project on increasing truck traffic on I-880 and I-980.</li> <li>Discuss impact of project on Sacramento/San Jose railroad corridor.</li> <li>Discuss impact of project on Alameda/Oakland Ferry.</li> <li>Discuss impact on shoreline access and Bay Trail.</li> <li>Discuss impact on transportation corridor providing regional access between NAS Alameda and I-880 and I-980.</li> <li>Evaluate suitability of site to accommodate the projected regional need for container port facilities.</li> <li>Discuss impact on air cargo operations at Oakland Airport.</li> </ul>  |
| Kay Miller,<br>Alameda Reuse<br>Redevelopment<br>Authority                            | Letter<br>Dated<br>7/1/96  | <ul style="list-style-type: none"> <li>Concur with comments made by City of Alameda in June 28 letter.</li> <li>Evaluate visual impact, especially on proposed NAS Alameda reuse.</li> <li>Evaluate cumulative impacts with NAS Alameda reuse plan.</li> </ul>   |
| Various<br>Signatories,<br>Secondary<br>Materials<br>Industries<br>Working Group      | Letter<br>Dated<br>6/24/96 | <ul style="list-style-type: none"> <li>Analyze impacts of removing structures.</li> <li>Analyze waste generated during new construction.</li> <li>Reuse entire buildings if possible; if not, salvage reusable portions and recycle unusable portions of the structure.</li> <li>Dispose of, properly, materials containing asbestos or lead-based paint.</li> <li>Do not burn or mulch wood.</li> <li>Deconstruction has beneficial socioeconomic impacts.</li> <li>Examine the cumulative impact of structure disposal on area landfills.</li> <li>Deconstruction can save historically significant portions of buildings or provide replacement parts for other buildings.</li> </ul>   |
| Jean Matsuura,<br>League of Women<br>Voters of the Bay<br>Area                        | Letter<br>Dated<br>6/30/96 | <ul style="list-style-type: none"> <li>Provide an alternative that does not require placing any fill.</li> <li>Present impacts to natural resources, especially wetlands, eelgrass beds, and endangered species, such as least terns and brown pelicans.</li> </ul>  |
| Arthur Feinstein,<br>Golden Gate<br>Audubon Society                                   | Letter<br>Dated<br>6/28/96 | <ul style="list-style-type: none"> <li>Consider impacts on California least tern.</li> <li>Consider impacts to eelgrass beds, if any.</li> <li>Present a "no fill" alternative.</li> </ul>   |
| William Coburn,<br>Oakland Heritage<br>Alliance                                       | Letter<br>Dated<br>6/20/96 | <ul style="list-style-type: none"> <li>Include one alternative that minimizes the effect on historic structures.</li> <li>Consider an alternative that would retain all or a portion of the historic resources.</li> </ul>   |



**Table D-1**  
**Scoping Summary**

| Commentor   | Form                               | Issues   |
|---|------------------------------------|--|
| Judith Bloom  | Verbal<br>Comment<br>on<br>6/13/96 | <ul style="list-style-type: none"> <li>• Learned of the meeting at 5:00 p.m. on the day of the meeting.</li> <li>• Make Vision 2000 materials clearer.</li> <li>• Include explanation of alternatives impact on community concerns.</li> <li>• Create an electric truck plant to support Port activities.</li> <li>• Poor attendance at hearing because public lost faith in Navy promises.</li> <li>• Wants to understand how the joint intermodal terminal would work and concluded that such a terminal might even mitigate truck effects.</li> </ul>   |
| George Burt   | Verbal<br>Comment<br>on<br>6/13/96 | <ul style="list-style-type: none"> <li>• Attendance at the hearing was too low.</li> <li>• Vision 2000 is a project that Oakland can be proud of.</li> <li>• Port's presentation and public information package is insufficient.</li> <li>• Port must communicate with citizens and businesses.</li> <li>• Vision 2000 will satisfy employment and warehouse space needs.</li> <li>• West Oakland Commerce Association endorses Vision 2000.</li> </ul>  |
| William<br>Chorneau   | Verbal<br>Comment<br>on<br>6/13/96 | <ul style="list-style-type: none"> <li>• NEPA process could be challenged based on inadequate outreach.</li> <li>• Received the meeting notice only a week ago and did not have enough time to mobilize concerned citizens.</li> <li>• Recommended that the meeting information be printed on the first page of the scoping mailing.</li> <li>• Requested public access in the Port's proposal.</li> <li>• Outlined a list of components that should be presented in the EIS/EIR, all of which are required features of NEPA and CEQA, and are presented in his letter on behalf of the Coalition for West Oakland Revitalization.</li> </ul>  |
| William<br>Chorneau,<br>Coalition for West<br>Oakland<br>Revitalization | Letter<br>Dated<br>6/27/96         | <ul style="list-style-type: none"> <li>• Identify different lead agency; perhaps Oakland Office of Economic Development.</li> <li>• Schedule second hearing; first notice of hearing was inadequate.</li> <li>• Expand scope to include issues important to entities other than Port.</li> <li>• Describe the "no project" alternative in a detailed manner.</li> <li>• Include an alternative that does not include the nonreversionary land.</li> <li>• Include alternatives that provide more public access and marine habitat enhancement by decreasing the size of rail or marine terminals.</li> <li>• Identify mitigation measures for impacts, especially socioeconomic.</li> <li>• Present setting, impacts, and mitigation in one section.</li> <li>• Setting, as stated in CEQA, should describe the study area "as it exists before the commencement of the project."</li> <li>• Present setting from site, local, and regional perspective.</li> <li>• Separate impacts related to construction and operation.</li> <li>• Demonstrate how thresholds of significance are identified.</li> <li>• Show level of significance for each impact before and after mitigation.</li> <li>• Cover employment generation, housing, public access and wildlife habitat, transportation, public services, cumulative impacts and growth inducing impacts, air quality, water, noise, visual, and land use.</li> <li>• Address the following additional mitigations: <ul style="list-style-type: none"> <li>– additional shoreline access.</li> <li>– non-polluting alternatives to internal combustion engines.</li> <li>– buffer zone of trees.</li> <li>– truck emission standards.</li> <li>– adequate on-site truck parking</li> <li>– Port funding for a new West Oakland park.</li> </ul> </li> </ul> |

**Table D-1**  
**Scoping Summary**

| Commentor       | Form   | Issues  |
|-----------------|--|---|
| Margaret Gordon | Verbal<br>Comment<br>on<br>6/13/96   | <ul style="list-style-type: none"> <li>Public outreach process was not adequately conducted.</li> <li>Hearing conflicted with other community meetings.</li> <li>Proposed a door-to-door outreach program.</li> <li>No provisions for nonprofits to acquire FISCO property.</li> </ul>  |
| Harold Logwood  | Verbal<br>Comment<br>on<br>6/13/96   | <ul style="list-style-type: none"> <li>Port and City formed a partnership without involving citizens.</li> <li>Received letter; saw public notices in both Oakland newspapers.</li> <li>Navy made a good effort to inform the public of FISCO disposal.</li> <li>Applauded the Navy for initiating a collaborative effort.</li> <li>Asked that the Navy not be alarmed by the poor attendance but to continue its efforts to keep the community involved.</li> </ul>  |
| Nancy Nadel     | Letter<br>Dated<br>6/10/96<br>and read<br>by Ellen<br>Parkinson<br>on<br>6/13/96 | <ul style="list-style-type: none"> <li>Include original documents describing land transfer from City to Navy.</li> <li>Because there was no public involvement in amending PL 102-484, alternatives that do not include nonreversionary land should be developed. These alternatives should attract businesses that: (1) create more jobs than proposed Port alternatives; (2) benefit from close proximity to the Port; (3) use recycled materials; (4) conserve air, water, and energy; (5) do not create land fill waste; (6) promote diversity; and (7) ensure minimal negative environmental impact.</li> <li>Explore the following mitigations: (1) give West Oakland residents first priority for new jobs; (2) establish a community task force for traffic circulation issues; (3) establish emission standards for trucks at the Port and have trucks indicate compliance with standards by displaying an easily recognizable sticker; (4) provide compulsory training for truck drivers on the dangers of diesel emissions; (5) develop a systems of fines for trucks not complying with emission standards; (6) plant a tree buffer zone between Port and neighborhood; (7) install air monitors; (8) provide funding for creation and maintenance of a new West Oakland park; (9) provide free truck parking away from West Oakland communities; (10) phase-in non diesel alternatives; (11) provide "no truck parking" signs in West Oakland neighborhoods and develop an enforcement program for mitigations needing enforcement; and (12) provide additional shoreline access.</li> </ul> |
| Ellen Parkinson | Verbal<br>Comment<br>on<br>6/13/96   | <ul style="list-style-type: none"> <li>Supports shoreline park as part of Vision 2000.</li> <li>Do not forget the youth in the community.</li> <li>Proposed a large fishing pier, a nine hole golf course, an Olympic-sized swimming pool, a bowling alley, and a skating rink.</li> <li>Emphasized need for housing and jobs.</li> <li>Concerned about air pollution and street congestion.</li> <li>Design a route from Port to interstate not through neighborhoods.</li> </ul>  |
| Roger Schmidt   | Verbal<br>Comment<br>on<br>6/13/96   | <ul style="list-style-type: none"> <li>Supports Port and its contributions to improvements in the area.</li> <li>Requested improved access to the 7th Street Fishing Pier.</li> <li>Presented some of the suggestions developed during the waterfront charette, such as turning Middle Harbor into a small boat harbor; creating wetlands; extending the Bay Trail to this area; providing access to the area with a light rail system; using fill from dredging operations to expand canals to make breakwaters or create wetlands; and employing former navy staff in the recreational areas.</li> </ul>  |
| John Geddie     | Letter<br>Dated<br>6/13/96   | <ul style="list-style-type: none"> <li>Wishes to be included on the mailing list to receive the EIS/EIR.</li> </ul>   |

Table D-1  
Scoping Summary

| Commentor                                       | Form                       | Issues  |
|---|----------------------------|---|
| Andrea Dawson,<br>Acumen Building<br>Enterprise | Letter<br>Dated<br>6/11/96 | <ul style="list-style-type: none"><li>• Wishes to be included on the mailing list to receive the EIS/EIR.</li></ul> |



[Federal Register: March 21, 1997 (Volume 62, Number 55)]  
[Notices]  
[Page 13602]  
From the Federal Register Online via GPO Access [wais.access.gpo.gov]  
[DOCID:fr21mr97-58]

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DEPARTMENT OF DEFENSE

Department of the Navy

**Notice of Public Hearing** for the Joint Draft Environmental Impact Statement/Environment Impact Report (EIS/EIR) for the Disposal and Proposed Reuse of the Fleet and Industrial Supply Center, Oakland, CA

Summary: Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500-1508) and the California Environmental Quality Act (CEQA) Section 15170, the Department of the Navy, in coordination with the Port of Oakland, has prepared and filed with the U.S. Environmental Protection Agency a joint Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Navy disposal and Port of Oakland reuse of the Navy Fleet and Industrial Supply Center, Oakland (FISCO) property and structures in Oakland, California. The Navy will be the EIS lead agency for the NEPA documentation and the Port of Oakland will be the EIR lead agency for the CEQA documentation. The Federal Highway Administration is a cooperating agency for the EIS and the California Department of Transportation is a responsible agency for the EIR. FISCO is scheduled to close in September 1998 in compliance with the 1995 Base Realignment and Closure (BRAC) directive from Congress. The Draft EIS/EIR addresses the potential impacts to the environment that may result from the disposal of FISCO via special legislation (Public Law 104-106 Section 2867) to the Port of Oakland.

FISCO is within the planning jurisdiction of the Port of Oakland. The Port of Oakland Vision 2000 Program proposes development of ship, railroad, and truck freight handling facilities to meet the anticipated demand for transportation services in the San Francisco Bay area and northern California and an intermodal port of national and international commerce. The Vision 2000 Program also includes development of public waterfront access and marine habitat enhancement.

The joint EIS/EIR provides a program level analysis supporting both the Navy NEPA requirements to describe potential environmental impacts associated with the property disposal at FISCO, and the Port of Oakland CEQA requirements to analyze environmental impacts of implementing the Vision 2000 Program.

The Draft EIS/EIR evaluates a "No Action" alternative and four Port of Oakland reuse alternatives. The "No Action" alternative would result in the federal government indefinitely retaining ownership of the nonreversionary Navy property. Under the "No Action" alternative, the Navy would continue leasing the property to the Port of Oakland under the existing 50 year lease agreement allowed by Public Law 102-484.

The four reuse alternatives combine the common land use components of a railroad terminal, marine terminals, public waterfront access and marine habitat enhancement. As FISCO is within the Port of Oakland jurisdiction and is designated as a Port Priority use area in the April 1996 San Francisco Bay Conservation and Development Commission and the Metropolitan Transportation Commission Seaport Plan Update, these four alternatives emphasize port-related activities. The Port of Oakland Vision 2000 Program may require additional property outside the FISCO boundary in order to meet the objectives of the Program.

ADDRESSES: The Draft EIS/EIR is available for review at the following public libraries in the vicinity of FISCO: (1) West Oakland Public Library, 1801 Adeline Street, Oakland, CA; (2) Oakland Main Library, 125 14th Street,

Oakland, CA; and (3) Alameda Main Library, 2264 Santa Clara Avenue, Alameda, CA. The Navy will conduct a public hearing on Tuesday, April 8, 1997, at 7:00 p.m., in the West Oakland Library, 1801 Adeline Street, Oakland, California. Federal, state and local agencies, and interested individuals are invited to be present or represented at the hearing. Oral comments will be heard and transcribed by a stenographer. To assure accuracy of the record, all comments should be submitted in writing. All comments, both oral and written, will become part of the public record in the study. In the interest of available time, each speaker will be asked to limit oral comments to five minutes. Longer comments should be summarized at the public hearing and submitted in writing either at the hearing or mailed to the address listed below.

FOR FURTHER INFORMATION CONTACT: All written comments concerning the Draft EIS/EIR must be submitted no later than April 22, 1997 to Mr. Gary J. MuneKawa (Code 1852GM), Engineering Field Activity West, Naval Facilities Engineering Command, 900 Commodore Drive, San Bruno, California 94066-5006, telephone (415) 244-3022, fax (415) 244-3737. For information regarding the Port of Oakland Vision 2000 Program or the Draft EIR, please contact Ms. Loretta Meyer, Port of Oakland, Environmental Assessment Section, 530 Water Street, Oakland, California 94607, telephone (510) 272-1181, or fax (510) 465-3755. A limited number of additional Draft EIS/EIR documents are available on request.

Dated: March 18, 1997.

D.E. Koenig,

LCDR, JAGC, USN, Federal Register Liaison Officer.

[FR Doc. 97-7238 Filed 3-20-97; 8:45 am]

BILLING CODE 3810-FF-P

[Federal Register: March 7, 1997 (Volume 62, Number 45)]  
 [Notices]  
 [Page 10558-10559]  
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 [DOCID:fr07mr97-90]

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ENVIRONMENTAL PROTECTION AGENCY [ER-FRL-5478-1]

**Environmental Impact Statements; Notice of Availability**

Responsible Agency: Office of Federal Activities, General Information (202) 564-7167 OR (202) 564-7153.  
 Weekly receipt of Environmental Impact Statements Filed February 24, 1997 Through February 28, 1997 Pursuant to 40 CFR 1506.9.

EIS No. 970065, Draft EIS, BLM, CA, Interlakes Special Recreation Management Area Plan, Implementation, Federal and Private Lands Issues, Shasta County, CA, Due: April 21, 1997, Contact: Eric A. Morgan (916) 224-2100.

EIS No. 970066, Draft EIS, FHW, GA, Harry S. Truman Parkway, Construction from the Abercorn Street Extension (GA-204) to Derenne Avenue, COE Section 404 Permit and U.S. Coast Guard Permit, Chatham County, GA, Due: April 21, 1997, Contact: Larry R. Dreihaupt (404) 562-3630.

EIS No. 970067, Draft Supplement, BLM, MT, SD, ND, Standards for Rangeland Health and Guidelines for Livestock Grazing Management on Bureau of Land Management Administered Lands, Implementation, MT, ND and SD, Due: May 03, 1997, Contact: Sandy Brooks (406) 255-2929.

EIS No. 970068, Draft EIS, GSA, CO, Denver Federal Center Master Site Plan, Implementation, City of Lakewood, Jefferson County, CO, Due: April 28, 1997, Contact: Lisa Morpurgo (303) 236-7131.

EIS No. 970069, Final EIS, BLM, NV, Denton-Rawhide Mine Expansion Project, Plan of Operation Approval, Implementation, Mineral County, NV, Due: April 07, 1997, Contact: Terri Knutson (702) 885-6156.

EIS No. 970070, Draft EIS, AFS, NH, Waterville Valley Ski Resort Project, Development of Snowmaking Water Impoundments Project, Special-Use-Permits, Dredge and Fill Permit and COE Section 404 Permit, White Mountain National Forest, Pemigewasset Ranger District, Town of Waterville Valley, Grafton County, NH, Due: April 21, 1997, Contact: Jerome E. Perez (802) 767-4261.

**EIS No. 970071, Draft EIS, USA, CA, Fleet and Industrial Supply Center/Vision 2000 Maritime Development, Disposal and Reuse, Funding, NPDES Permit, COE Section 10 and 404 Permits, City of Oakland, Alameda County, CA, Due: April 21, 1997, Contact: Gary J. Munekawa (415) 244-3022.**

EIS No. 970072, Final EIS, BLM, NM, Roswell Resource Area Management Plan and Carlsbad Resource Area Management Plan Amendment, Implementation, Quay, Curry, DeBaca, Roosevelt, Lincoln, Guadalupe, Chaves, Eddy, and Lea Counties, NM, Due: April 07, 1997, Contact: David Stout (505) 627-0272.

EIS No. 970073, Draft EIS, AFS, AK, Chasina Timber Sale, Harvesting Timber and Road Construction, Tongass National Forest, Craig Ranger District, Ketchikan Administrative Area, AK, Due: April 25, 1997, Contact: Norm Matson (907) 228-6273.



EIS No. 970074, Final EIS, DOE, NV, CA, Sierra Nevada Region 2004 Power Marketing Program, Implementation, 1,480 megawatts (MW) Power from the Central Valley and Washoe Project, NV and CA, Due: April 07, 1997, Contact: Jerry Toenyes (916) 353-4418.

Dated: March 4, 1997.

William D. Dickerson,

Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. 97-5703 Filed 3-6-97; 8:45 am]

BILLING CODE 6560-50-U



PETE WILSON  
GOVERNOR

# State of California

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH

1400 TENTH STREET  
SACRAMENTO 95814

PORT OF OAKLAND  
ARCH ENVIRONMENTAL DEPT



97 APR 24 410:14

LEE GRISSOM  
DIRECTOR

April 22, 1997

RECEIVED

JAMES MCGRATH  
PORT OF OAKLAND  
530 WATER STREET  
OAKLAND, CA 94607

Subject: DISPOSAL AND REUSE OF FLEET INDUSTRIAL AND SUPPLY SCH #:  
96062010

Dear JAMES MCGRATH:

The State Clearinghouse submitted the above named environmental document to selected state agencies for review. The review period is closed and none of the state agencies have comments. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call Kristen Derscheid at (916) 445-0613 if you have any questions regarding the environmental review process. When contacting the Clearinghouse in this matter, please use the eight-digit State Clearinghouse number so that we may respond promptly.

Sincerely,

ANTERO A. RIVASPLATA  
Chief, State Clearinghouse

# GUIDE TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

## Notice of Completion and Environmental Document Transmittal Form

See NOTE below

SCR # 96062010

Mail to: State Clearinghouse, 1400 Tomlin Street, Sacramento, CA 95814-0613

Draft Envir. Impact Statement/Envir. Impact Report for the  
Disposal & Reuse of the Fleet & Industrial Supply, Oakland

1. Project Title: Port of Oakland 3. Contact Person: LORRETT MEYER  
2. Lead Agency: Port of Oakland 4. City: Oakland  
5. Screen Address: 520 Water Street 6. Phone: 415-272-1181  
7a. County: Alameda 7b. Zip: 94607

Project Location - Specific: adjacent to Oakland Inner and Middle Harbor, off 7th Street, Oakland, CA

8. County: Alameda 9. City/Community: Oakland, NEAR NATIONAL  
10. Assessor's Parcel No.: N/A 11. Section: Top  
12. Cross Street: 7th Street, Maritime 13. For Road, Natural Constraints: Road  
14. Within 2 miles: a. State Route: 1-580 b. Address:   
15. Railways: UP, SP 16. Waterways: Oakland Inner Harbor, Middle Harbor

### 7. Document Type

CEQA: 81. ☐ NOP 82. ☐ Supplemental/Amendment EIR 83. ☐ MSEA: 84. ☐ NOE 85. ☐ OTHER: 13. ☐ John Deere  
86. ☐ Early Conc 87. ☐ (Prior SCR No.) 88. ☐ FONSI 14. ☐ Final Document  
89. ☐ Map Doc 90. ☐ NOE 15. ☐ Draft EIR 16. ☐ Other  
91. ☐ Draft EIR 92. ☐ NOC 17. ☐ EA 18. ☐ Other

### 8. Land Action Type

93. ☐ General Plan Update 94. ☐ Amendment 95. ☐ Rezone 96. ☐ Water Right Plan  
97. ☐ New Business 98. ☐ Specific Plan 99. ☐ Land Use Change (Relocation) 100. ☐ Change Ag Program  
101. ☐ General Plan Amendment 102. ☐ Community Plan 103. ☐ Final Map, Tent Map, etc. 104. ☐ Other: Disposal and Reuse of Navy Base  
105. ☐ Master Plan 106. ☐ Redevelopment 107. ☐ Use Permit

### 9. Development Type

108. ☐ Residential: 109. ☐ Office 110. ☐ Shopping/Commercial 111. ☐ Industrial 112. ☐ Water Pollution 113. ☐ Transportation  
114. ☐ Other: Unit 115. ☐ Other: Acres 116. ☐ Other: Units 117. ☐ Other: Acres 118. ☐ Other: Units 119. ☐ Other: Acres 120. ☐ Other: Units 121. ☐ Other: Acres 122. ☐ Other: Units 123. ☐ Other: Acres 124. ☐ Other: Units 125. ☐ Other: Acres 126. ☐ Other: Units 127. ☐ Other: Acres 128. ☐ Other: Units 129. ☐ Other: Acres 130. ☐ Other: Units 131. ☐ Other: Acres 132. ☐ Other: Units 133. ☐ Other: Acres 134. ☐ Other: Units 135. ☐ Other: Acres 136. ☐ Other: Units 137. ☐ Other: Acres 138. ☐ Other: Units 139. ☐ Other: Acres 140. ☐ Other: Units 141. ☐ Other: Acres 142. ☐ Other: Units 143. ☐ Other: Acres 144. ☐ Other: Units 145. ☐ Other: Acres 146. ☐ Other: Units 147. ☐ Other: Acres 148. ☐ Other: Units 149. ☐ Other: Acres 150. ☐ Other: Units 151. ☐ Other: Acres 152. ☐ Other: Units 153. ☐ Other: Acres 154. ☐ Other: Units 155. ☐ Other: Acres 156. ☐ Other: Units 157. ☐ Other: Acres 158. ☐ Other: Units 159. ☐ Other: Acres 160. ☐ Other: Units 161. ☐ Other: Acres 162. ☐ Other: Units 163. ☐ Other: Acres 164. ☐ Other: Units 165. ☐ Other: Acres 166. ☐ Other: Units 167. ☐ Other: Acres 168. ☐ Other: Units 169. ☐ Other: Acres 170. ☐ Other: Units 171. ☐ Other: Acres 172. ☐ Other: Units 173. ☐ Other: Acres 174. ☐ Other: Units 175. ☐ Other: Acres 176. ☐ Other: Units 177. ☐ Other: Acres 178. ☐ Other: Units 179. ☐ Other: Acres 180. ☐ Other: Units 181. ☐ Other: Acres 182. ☐ Other: Units 183. ☐ Other: Acres 184. ☐ Other: Units 185. ☐ Other: Acres 186. ☐ Other: Units 187. ☐ Other: Acres 188. ☐ Other: Units 189. ☐ Other: Acres 190. ☐ Other: Units 191. ☐ Other: Acres 192. ☐ Other: Units 193. ☐ Other: Acres 194. ☐ Other: Units 195. ☐ Other: Acres 196. ☐ Other: Units 197. ☐ Other: Acres 198. ☐ Other: Units 199. ☐ Other: Acres 200. ☐ Other: Units

15. Total Acres: 818 acres (total) Navy Property 32A acres 16. Total Acre Contained in or on 27,000 employees (direct/indirect)

### 12. Project Action Document or Description

201. ☐ Agriculture/Veteran 202. ☐ Agricultural Land 203. ☐ Air Quality 204. ☐ Archaeological/Historical 205. ☐ Coastal Zone 206. ☐ Cumulative 207. ☐ Flood Hazard 208. ☐ Flooding/Damage 209. ☐ Geology/Seismic 210. ☐ Jobs/Housing Demand 211. ☐ Minerals 212. ☐ Noise 213. ☐ Public Services 214. ☐ Schools 215. ☐ Septic Systems 216. ☐ Senior Citizens 217. ☐ Social 218. ☐ Soil Erosion 219. ☐ Soil Water 220. ☐ Toxic/Hazardous 221. ☐ Traffic/Transportation 222. ☐ Vegetation 223. ☐ Water Quality 224. ☐ Water Supply 225. ☐ Wetland/Expanses 226. ☐ Wildlife 227. ☐ Other: General Planning 228. ☐ Other: General Planning 229. ☐ Other: General Planning 230. ☐ Other: General Planning 231. ☐ Other: General Planning 232. ☐ Other: General Planning 233. ☐ Other: General Planning 234. ☐ Other: General Planning 235. ☐ Other: General Planning 236. ☐ Other: General Planning 237. ☐ Other: General Planning 238. ☐ Other: General Planning 239. ☐ Other: General Planning 240. ☐ Other: General Planning 241. ☐ Other: General Planning 242. ☐ Other: General Planning 243. ☐ Other: General Planning 244. ☐ Other: General Planning 245. ☐ Other: General Planning 246. ☐ Other: General Planning 247. ☐ Other: General Planning 248. ☐ Other: General Planning 249. ☐ Other: General Planning 250. ☐ Other: General Planning 251. ☐ Other: General Planning 252. ☐ Other: General Planning 253. ☐ Other: General Planning 254. ☐ Other: General Planning 255. ☐ Other: General Planning 256. ☐ Other: General Planning 257. ☐ Other: General Planning 258. ☐ Other: General Planning 259. ☐ Other: General Planning 260. ☐ Other: General Planning 261. ☐ Other: General Planning 262. ☐ Other: General Planning 263. ☐ Other: General Planning 264. ☐ Other: General Planning 265. ☐ Other: General Planning 266. ☐ Other: General Planning 267. ☐ Other: General Planning 268. ☐ Other: General Planning 269. ☐ Other: General Planning 270. ☐ Other: General Planning 271. ☐ Other: General Planning 272. ☐ Other: General Planning 273. ☐ Other: General Planning 274. ☐ Other: General Planning 275. ☐ Other: General Planning 276. ☐ Other: General Planning 277. ☐ Other: General Planning 278. ☐ Other: General Planning 279. ☐ Other: General Planning 280. ☐ Other: General Planning 281. ☐ Other: General Planning 282. ☐ Other: General Planning 283. ☐ Other: General Planning 284. ☐ Other: General Planning 285. ☐ Other: General Planning 286. ☐ Other: General Planning 287. ☐ Other: General Planning 288. ☐ Other: General Planning 289. ☐ Other: General Planning 290. ☐ Other: General Planning 291. ☐ Other: General Planning 292. ☐ Other: General Planning 293. ☐ Other: General Planning 294. ☐ Other: General Planning 295. ☐ Other: General Planning 296. ☐ Other: General Planning 297. ☐ Other: General Planning 298. ☐ Other: General Planning 299. ☐ Other: General Planning 300. ☐ Other: General Planning

13. Funding (approx.) Federal: \$7,811,100 (STEPA) State: \$0 Total: 7 million

### 14. Project Land Use and Zoning Industrial / Transportation / Port / Railroads

15. Project Description: The project is the Disposal by the Navy of the Fleet Industrial Supply Center and its conveyance to the Port of Oakland for Reuse of Land for Vision 2000 Development

State Clearinghouse Contact: Ms. Angel Howell  
(916) 445-0613

State Review Began: 3.6.97

Dept. Review to Agency: 4.14

Agency Rev to SCH: 4.18

SCH COMPLIANCE: 4.21

Please note SCR Number on all Comments

96062010

Please forward late comments directly to the Lead Agency

AQMD/APCD (Resources): 3.8

96062010

## Project Sent to the following State Agencies

☒ Resources ☐ State/Consumer Svcs  
☐ Boiling ☐ General Services  
☐ Coastal Comm ☐ Cal/EPA  
☐ Coastal Conserv ☒ ARB  
☐ Colorado Rvr Bd ☒ CA Waste Mgmt Bd  
☐ Conservation ☒ SWRCB: Grants  
☒ Fish & Game # 3 ☒ SWRCB: Data  
☐ Delta Protection Commission ☐ SWRCB: Wtr Quality  
☒ Forestry ☐ SWRCB: Wtr Rights  
☒ Parks & Rec/OHP ☒ Reg. WQCB # 2  
☒ Reclamation ☒ DTSC/CTC  
☒ BCDC ☐ YUL/ADR Corrections  
☐ DWR ☐ Corrections  
☐ OES ☐ Independent Comm  
☐ Bus Transp Hous ☐ Energy Comm  
☒ Aeronautics ☐ NAHC  
☒ CHP ☐ PUC  
☒ Citrus # 4 ☐ Santa Mn Mts  
☐ Trans Planning ☒ State Lands Comm  
☐ Housing & Devel ☐ Tahoe Rgl Plan  
☐ Health & Welfare ☐ Other:  
☐ Dept. of Health  
☐ Medical Waste



## **PUBLIC HEARING NEWSPAPER ADVERTISEMENTS**

The following newspaper advertisement announcing the public hearing to receive oral and written comments concerning the Disposal and Reuse of FISCO/Vision 2000 Maritime Development Draft EIS/EIR and the start of the public comment period was published in the following papers:

San Francisco Chronicle - Sunday, March 30, 1997, and Monday March 31, 1997.

Oakland Tribune - Sunday, March 30, 1997, and Monday March 31, 1997.

Oakland Post - Sunday, March 30, 1997.

**NOTICE OF PUBLIC HEARING  
Joint Draft Environmental Impact Statement/Environmental Impact  
Report (EIS/EIR) for the Disposal and Proposed Reuse of the Fleet and  
Industrial Supply Center, Oakland, CA**

**7:00 P.M.  
TUESDAY, APRIL 8, 1997  
WEST OAKLAND PUBLIC LIBRARY  
OAKLAND, CALIFORNIA**

A public hearing to receive oral and written comments concerning the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) will be held on Tuesday, April 8, 1997, at 7:00 p.m., in the West Oakland Library, 1801 Adeline Street, Oakland, California. Federal, state and local agencies, and interested individuals are invited to be present or represented at the hearing. Oral comments will be heard and transcribed by a stenographer. To assure accuracy of the record, all comments should be submitted in writing. All comments, both oral and written, will become part of the public record in the study. In the interest of available time, each speaker will be asked to limit oral comments to five minutes. Longer comments should be summarized at the public hearing and submitted in writing either at the hearing or mailed to the address listed below.

Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500 — 1508) and the California Environmental Quality Act (CEQA) Section 15170, the Department of the Navy, in coordination with the Port of Oakland, has prepared and filed with the U.S. Environmental Protection Agency a joint Draft EIS/EIR for the Navy disposal and Port of Oakland reuse of the Navy Fleet and Industrial Supply Center, Oakland (FISCO) property and structures in Oakland, California. The Navy will be the EIS lead agency for the NEPA documentation and Port of Oakland will be the EIR lead agency for the CEQA documentation. The Federal Highway Administration is a cooperating agency for the EIS and the California Department of Transportation is a responsible agency for the EIR. FISCO is scheduled to close in September 1998 in compliance with the 1995 Base Realignment and Closure (BRAC) directive from Congress. The Draft EIS/EIR addresses the potential impacts to the environment that may result from the disposal of FISCO via special legislation (Public Law 104-106 Section 2867) to the Port of Oakland.

FISCO is within the planning jurisdiction of the Port of Oakland. The Port of Oakland Vision 2000 Program proposes development of ship, railroad, and truck freight handling facilities to meet the anticipated demand for transportation services in the San Francisco Bay area and northern California and an intermodal port of national and international commerce. The Vision 2000 Program also includes development of public waterfront access and marine habitat enhancement. The Port of Oakland Vision 2000 Program may require additional property outside the FISCO boundary in order to meet the objectives of the Program.

The joint EIS/EIR provides a program level analysis supporting both the Navy NEPA requirements to describe potential environmental impacts associated with the property disposal at FISCO, and the Port of Oakland CEQA requirements to analyze environmental impacts of implementing the Vision 2000 Program.

The Draft EIS/EIR evaluates a "No Action" alternative and four Port of Oakland reuse alternatives. The "No Action" alternative would result in the federal government indefinitely retaining ownership of the nonreversionary Navy property. Under the "No Action" alternative, the Navy would continue leasing the property to the Port of Oakland under the existing 50 year lease agreement allowed by Public Law 102-484.

The Draft EIS/EIR is available for review at the following public libraries in the vicinity of FISCO:

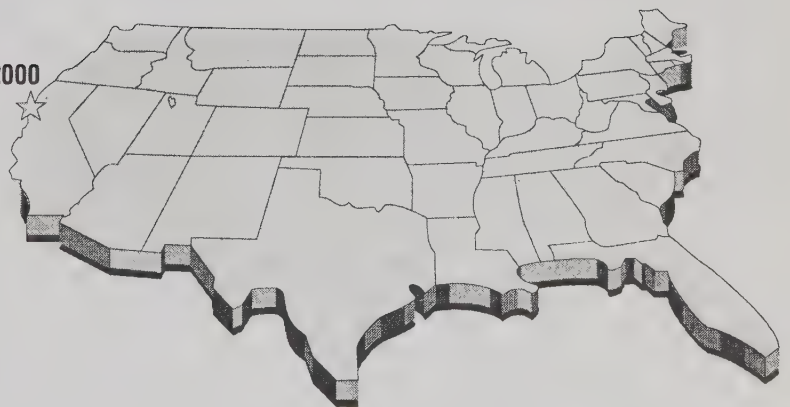
West Oakland Public Library, 1801 Adeline Street, Oakland, CA;  
Oakland Main Library, 125 14th Street, Oakland, CA; and  
Alameda Main Library, 2264 Santa Clara Avenue, Alameda, CA.

All written comments concerning the Draft EIS/EIR must be submitted no later than April 22, 1997 to:

Mr. Gary J. Munekawa (Code 1852GM)  
Engineering Field Activity West  
Naval Facilities Engineering Command  
900 Commodore Drive, San Bruno, California 94066-5006  
Telephone (415) 244-3022, Fax (415) 244-3737

For information regarding the Port of Oakland Vision 2000 Program or the Draft EIR, please contact Ms. Loretta Meyer, Port of Oakland, Environmental Assessment Section, 530 Water Street, Oakland, California 94607, telephone (510) 272-1181, or fax (510) 465-3755. A limited number of additional Draft EIS/EIR documents are available on request.

FISCO/Vision 2000



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## APPENDIX E REGULATORY CONSIDERATIONS



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|                               |      |
|-------------------------------|------|
| LAND USE                      | E-1  |
| CULTURAL RESOURCES            | E-5  |
| VISUAL RESOURCES              | E-6  |
| BIOLOGICAL RESOURCES          | E-7  |
| WATER RESOURCES               | E-9  |
| GEOLOGY AND SOILS             | E-11 |
| TRAFFIC AND CIRCULATION       | E-14 |
| AIR QUALITY                   | E-15 |
| NOISE                         | E-17 |
| UTILITIES                     | E-19 |
| HAZARDOUS MATERIALS AND WASTE | E-20 |

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# Appendix E

## Regulatory Considerations

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### E.1. LAND USE

This section identifies land use plans and regulations that affect land use of the site. This includes the Port of Oakland Business and Policy Plan, the City of Oakland Policy Plan, the BCDC and MTC San Francisco Bay Area Seaport Plan, the Airport Land Use Commission (ALUC) of Alameda County Regulations, and the Coastal Zone Management Act (CZMA) regulations.

#### E.1.1 Port of Oakland Jurisdiction

Under the Charter of the City of Oakland, the Board of Port Commissioners is vested with the complete and exclusive power and duty, for and on behalf of the City of Oakland within the Port area, to exercise regulatory jurisdiction over land uses and other activities related to the Port of Oakland and to take charge and control of all rights and interests of the City in land and water areas (such as FISCO property). FISCO is within the Port area. Under the City Charter, the Board consists of seven Oakland residents appointed for four-year staggered terms by the Oakland City Council upon nomination by the City Mayor. Under the City Charter, the Board's power is subject to the requirement that it develop and use land in the Port area for a purpose in conformity with the City's General Plan. Most of the Port area is subject to the use restrictions of state legislative trust grants to the City of Oakland, which require uses consistent with statewide commerce, navigation and fisheries (Clark, T., August 14, 1996, personal communication).

Most of the Port area consists of land and water areas owned by the City of Oakland and administered by the Board. Most of the City-owned land in the Port Area is leased by the Board to others, with conditions and requirements governed by the relevant lease. With some exceptions, for City-owned land in the Port area, the Board approves only uses related to aviation, maritime, or other commercial uses of statewide import. If the land is owned by third parties, then the Board only approves uses that do not interfere or are not inconsistent with other aviation,

maritime, or commercial uses of City-owned property in Port Area (Clark, T., August 14, 1996, personal communication).

In 1968, a master development plan, commonly referred to as the Shoreline Plan, was adopted by the Port Commissioners by resolution on November 4, 1968, and was amended in 1969 to incorporate the plan and policies into the City of Oakland Comprehensive Plan (Clark, T., August 14, 1996, personal communication). In general, the Port land uses are consistent with the policies of the City of Oakland.

### **E.1.2 City of Oakland Policy Plan**

The City of Oakland Comprehensive Plan serves as the city's general plan. The city is in the process of updating the Comprehensive Plan. Comprehensive Plan policies help set the direction for land use designations, zoning districts, and development standards. The project site is designated for industrial use (Brady and Associates 1994).

The Oakland Policy Plan, a major component of the city's Comprehensive Plan, is the city council's statement of basic goals and policies, and guides its decisions on specific projects and actions. It also guides the actions and programs of city departments and agencies and assists citizens in participating in the policy-making process. Because the Port proposals for reuse of the project site should be consistent with the Oakland policy plan, the following policies should be considered (City of Oakland 1980):

#### ***E.1.2.1 General Considerations***

*Policy on Land Use Decision-making.* The applicable policies state "In deciding on major land use issues, the City will seek to consider the full range of direct and indirect economic, social, physical, environmental, and public service factors involved, giving special attention to possible impacts on lower income persons, the elderly, or members of minority groups." And "In considering those land use questions which mostly affect a particular neighborhood or other area, the City will give substantial weight to the opinions of the local citizens."

*Policy on Land Use Relating to the Natural Setting.* The applicable policies state "Bay fill should be undertaken only upon clear and convincing evidence that its benefits will outweigh its resulting environmental and other costs." And "In the development of shoreline areas, every reasonable effort should be made to provide attractive public access to the water-edge."

*Policy on Land Use Relating to Noise.* The applicable policy states "To the extent compatible with noise levels and other environmental factors, the intensity of development at each point in the city should be related to the degree of accessibility there."

*Policy on Land Use Relating to Urban Design and Preservation.* The applicable policy states "Every effort should be made to preserve those older buildings, other



physical features, sites, and areas which have significant historical, architectural, or other special interest or value.”

*Policies on Land Use Regulations, Mixture, and Transition.* The applicable policies state “The City will employ zoning or other land use regulations to ensure that land uses are compatible with their surroundings and to promote appropriate design and on-site conditions for residents or other users.” And “The City will see that the applicable land use regulations are compatible with particular desired functions and character, and where appropriate provide for an orderly transition of use type or density over time.” And “In areas which now contain a significant mixture of housing and industries, special steps should be taken to mitigate conflicts between these uses.”

#### **E.1.2.2 Commercial and Industrial Uses**

*General Policies.* The applicable policies state “The environmental quality of Oakland’s commercial and industrial areas should be protected and in many cases greatly improved. Amenities such as street trees and plazas should be added where appropriate to make these areas more desirable shopping or working environments.” And “Commercial and industrial areas should have adequate parking and loading facilities.”

*Policies on Industrial Areas.* The applicable policies state “When appropriate, rehabilitation in the form of structural repairs, modernization, improvement, or conversion of buildings, or other facilities, will be financially aided by the City to improve the environmental quality, efficiency, and market potential of industrial areas.” And “If the sites of existing military, transportation, or utility uses within the industrial belt become available for reuse in the future, they should generally be used for transportation or, in suitable locations, manufacturing or wholesaling. Special consideration should be given to possible uses that would involve large numbers of jobs or big contributions to the City’s tax base.” and “Marine and air terminal capacity should be developed with city, regional, and state-wide benefits.” and “Industrial areas should be developed and used in such a manner that they do not harm adjacent residential areas.”

#### **E.1.2.3 Civic and Open Space Uses**

*Policies on Civic and Open Space Uses.* The applicable policies state “Efforts should be made to increase the total acreage of public parks and recreation areas within the city limits, exclusive of facilities at schools, colleges, and universities, to at least 10 acres for each 1,000 of Oakland’s population.”

### **E.1.3 BCDC/MTC San Francisco Bay Area Seaport Plan**

The San Francisco Bay Area Seaport Plan is the product of a cooperative planning effort of the Bay Conservation and Development Commission (BCDC) and the Metropolitan Transportation Commission (MTC). The Seaport Plan constitutes the maritime element of MTC’s Regional Transportation Plan and BCDC’s San Francisco Bay Plan. The Seaport Plan employs land use designations and

enforceable policies that MTC and BCDC use in their funding and regulatory decisions and that local governments use in their land use and regulatory decisions. Areas determined to be necessary for future port development are designated as port priority use areas and are reserved for port-related and other uses that will not impede development of the sites for port purposes. Port priority use areas include marine terminals and directly-related ancillary activities such as container freight stations, transit sheds and other temporary storage, ship repairing, support transportation uses, including trucking and railroad yards, freight forwarders, government offices related to the port activity, chandlers, employee parking, and marine services. Within port use areas, marine terminals are identified, and these sites are reserved specifically for cargo handling operations (BCDC 1996).

The Seaport Plan is being revised to include the FISCO site. MTC has prepared an update that suggests designating the FISCO site as a port priority use area, declaring, "If and when not needed by the Navy, should be developed for port and related industrial uses." The proximity of FISCO to Port of Oakland and railyard facilities makes its shoreline a prime candidate for development as a major seaport facility. The emphasis should be on developing sites in the Oakland Inner Harbor. The update evaluated the FISCO site based on the criteria listed in Table E-1 (MTC 1996).

**Table E-1**  
**FISCO Seaport Use Evaluation**

| <b>Rating</b> | <b>Criteria</b>  |
|---------------|--|
| Excellent     | Compatibility with surrounding land uses                                 |
| Excellent     | Land access to freeways and railyards                                    |
| Fair          | Environmental conditions, especially bay fill requirements               |
| Excellent     | Availability of a local sponsor to plan, finance, and manage port        |
| Excellent     | Good infrastructure, such as warehouses, truck terminals, and railyards  |
| Excellent     | Available land for berth development and freight storage and movement    |
| Excellent     | Access by a significant portion of modern fully-loaded container vessels |

Source: MTC 1996

#### **E.1.4 Airport Land Use Commission of Alameda County Regulations**

The proposed project site is outside the ALUC General Referral Area and safety zones (where no structures are permitted in parts of aircraft flight paths) for NAS Alameda. The proposed project location is also outside the NAS Alameda Air Installation Compatible Use Zone (AICUZ) safety zone. However, part of the property is within the AICUZ Accident Potential Zone 2. In this zone, port facilities, rail lines, and trucking would be permitted so long as the height of occupied structures does not exceed four stories and electronic equipment does not

interfere with flight operations. The maritime and transportation uses of the subject site conform with the ALUC Noise Impact Zone for NAS Alameda.

#### **E.1.5 Coastal Zone Management Act Regulations**

The federal Coastal Zone Management Act requires that federal actions be consistent to the maximum extent practicable with federally approved state coastal plans. The San Francisco Bay Plan and Bay Area Seaport Plan are the local coastal plans for the San Francisco Bay. The Navy will comply with any applicable requirements of the Coastal Zone Management Act prior to conveyance of FISCO property.

### **E.2. CULTURAL RESOURCES**

The following is a brief summary of relevant plans, policies, and regulations governing cultural resources.

#### **E.2.1 Federal Laws**

Pursuant to the regulations implementing Section 106 of the National Historic Preservation Act (NHPA), the Navy is the lead federal agency for the disposal of FISCO. Section 106 of NHPA (16 USC 470f), as amended, and its implementing regulations (36 CFR 800), require federal agencies to consider the effects of their actions on properties listed, or eligible for listing, in the National Register of Historic Places (NRHP). It also requires that agencies provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on actions that will directly or indirectly affect National Register or eligible properties. Generally, a project that will have a "substantial adverse change" on a NRHP-eligible property is regarded as having a significant adverse effect on the environment. The criteria for evaluating NRHP eligibility, the relative significance, of cultural resources are found in 36 CFR 60.4.

Additional responsibilities also are placed on the activity commander or commanding officer pursuant to cultural resources requirements of DOD and the Department of the Navy (DOD Directive 4710.1 of 21 June 1984, Archeological and Historic Resources Management; Department of the Navy OPNAVINST 5090.1B, Historic and Archeological Resources Protection, 1 November 1994, Chapter 23).

#### **E.2.2 State Laws**

The principal state law relating to the preservation of historical and archeological properties is that of Appendices G and K of CEQA. CEQA mandates that significant effects to important cultural resources be determined during the project planning stage. Under this law, cultural resources include both prehistoric or historical archeological sites, as well as paleontological resources or properties of historic, cultural, or architectural significance to a community or ethnic or social group.



In addition to CEQA, the California Register Act of 1992, codified in Section 5020 and Section 21083 and 21084 of the Public Resources Code, offers specific guidance for the protection of archeological resources. The California Register of Historical Resources is a listing of significant historical resources in the state, similar to the NRHP at the national level. NRHP-listed or eligible properties are automatically listed in the California Register; therefore, the Navy Supply Center, Oakland Historic District, the Oakland Army Base Historic District, and the Southern Pacific West Oakland Shops Historic District are automatically included within the California Register. PRC 21084 of CEQA provides instructions on the treatment of projects that may result in a “substantial adverse change” to historical properties. Generally, a project that will have a “substantial adverse change” on a California Register property is regarded as having the potential for a significant effect on the environment.

### **E.3. VISUAL RESOURCES**

The following is a brief summary of relevant plans, policies, and regulations governing visual and scenic resources.

#### **E.3.1 City of Oakland Comprehensive Plan**

The City of Oakland Comprehensive Plan contains policies in the Land Use Element and Scenic Corridor Element related to visual resources. The policies relevant to the proposed project are as follows:

##### ***E.3.1.1 Land Use Element***

*Policies on Urban Design and Preservation.* Policy 1: The city will pursue a continuing comprehensive process of urban design to seize opportunities as they occur and direct physical changes toward a more efficient, more livable, more beautiful, and more dramatic urban environment.

Policy 2: The city will see that all public facilities ... form in the aggregate a logical visible framework that organizes and stimulates private development.

Policy 4: Every effort should be made to preserve those older buildings, other physical features, sites, and areas that have significant historical, architectural, or other special interest or value.

*Policies Relating to the Natural Setting.* Policy 1: Urban development wherever it occurs should be related sensitively to the natural setting, with the scale and intensity of development in each case bearing a reasonable relationship to the physical characteristics of the site.

##### ***E.3.1.2 Open Space, Conservation, and Recreation Element***

The Draft Open Space, Conservation and Recreation element of the Oakland General Plan contains policies related to aesthetics and visual resources. Policy OS-2.5, Urban Park Acquisition Criteria, is to increase the amount of urban parkland, placing a priority on land with visual significance. Policy OS-3.2, Military Base

Open Space, calls for designating undeveloped areas with high natural resource or scenic value as Resource Conservation Areas.

### **E.3.2 BCDC San Francisco Bay Plan**

The BCDC Bay Plan contains policies regarding appearance, design, and scenic views, as follows:

Policy 1: To enhance the visual quality of development around the bay and to take maximum advantage of the attractive setting it provides, the shores of the bay should be developed in accordance with the Public Access Design Guidelines and the General Development Guide.

Policy 3: In some areas, a small amount of fill may be allowed if the fill is necessary— and is the minimum absolutely required— to develop the project in accordance with the commission’s design recommendations.

Policy 5: To enhance the maritime atmosphere of the Bay Area, ports should be designed, whenever feasible, to permit public access and viewing of port activities by means of (a) view points (e.g., piers, platforms, or towers) and restaurants that would not interfere with port operations and (b) openings between buildings and other site designs that permit views from nearby roads.

Policy 14: Views of the bay from vista points, from roads, and from other areas should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water.

Policy 15: Vista points should be provided in the general locations indicated in the plan maps. Access to vista points should be provided by walkways, trails, or other appropriate means and would connect to the nearest public thoroughfare where parking or public transportation is available. In some cases, exhibits, museums, or markers would be desirable at vista points to explain the value or importance of the areas being viewed.

The San Francisco Bay Plan Map for the project site shows a West Basin of the Jack London Square Marina adjacent to the Howard Terminal, and states that at Jack London Square continuous public access should be provided along the Estuary to the Lake Merritt Channel.

## **E.4. BIOLOGICAL RESOURCES**

The following is a brief summary of relevant plans, policies, and regulations governing biological resources.

### **E.4.1 Rivers and Harbors Act of 1899 (Section 10)**

The US Army Corps of Engineers regulates impacts to navigable waters, making the excavation from or deposition of material into those waters subject to regulation. The Rivers and Harbors Act of 1899 (Section 10) includes the building

of structures in, over, or under these waters. A permit must be obtained from the Corps by the Port of Oakland before activities, such as filling, dredging, or construction, could begin in the waters around the project site.

#### **E.4.2 Clean Water Act**

The Clean Water Act was enacted to restore and protect the chemical, physical and biological integrity of the Nation's waters. Clean Water Act Section 401 certification requires that permitted projects comply with state water quality standards. The State establishes water quality standards under Section 301 of the Clean Water Act. State certification is a condition of the 401 certification process. State certification is covered under the Porter-Cologne Act.

Clean Water Act Section 404(B)(1) establishes guidelines for the discharge of dredged or fill material. The guidelines are established individually, or in concert with other activity to prevent adverse impacts to the ecosystem. The US Army Corps of Engineers must provide an opportunity for public comment. The guidelines and policies are developed in conjunction with the Environmental Protection Agency (EPA).

#### **E.4.3 Porter-Cologne Water Quality Control Act**

The law established a comprehensive program for regulating state water quality and controlling pollution. The organizations responsible for implementing this law include the State Water Resources Control Board and the regional water quality control boards.

#### **E.4.4 Federal Endangered Species Act**

Federal law directs that all federal agencies and departments use their authority to preserve endangered and threatened species under the guidance of the Endangered Species Act (16 USC 1531 et seq.). Federal agencies are required to consult with the US Fish and Wildlife Service (USFWS), or US National Marine Fisheries Service (NMFS) for marine species, prior to undertaking actions that may affect endangered species. The biological opinion is normally issued after the USFWS reviews the draft environmental document. Federal agencies are prohibited from enacting activities that would jeopardize the continued existence of these species.

#### **E.4.5 Fish and Wildlife Coordination Act of 1934 (amended in 1958)**

The act provides that wildlife conservation receive equal consideration and be coordinated with other features of water resources development. Any federal agency permitting, licensing, or construction of a project involving impoundment, diversion, or deepening of the waters of any stream or other water body must first consult with the Department of Interior (USFWS) and the Department of Commerce (NMFS), as well as the state wildlife resource agency to prevent losses or damages to resources and develop and improve resources in connection with development projects. Recommendations of the Secretary of the Interior must include impacts of the project on wildlife, measures to mitigate or compensate for these impacts, and a description of project features recommended for wildlife



conservation and development. The 1958 amendments to the law authorized the Secretary of the Interior to provide public fishing areas and accept donations of land and funds.

#### **E.4.6 Coastal Zone Management Act: (1972, amended in 1990)**

The Coastal Zone Management Act (CZMA) of 1972 and subsequent 1990 amendments (16 U.S.C. 1456 et seq.) act provides for coastal management programs by States. BCDC's coastal management program for the San Francisco Bay was approved in 1977 and is based on the McAteer-Petris Act, the Suisun Marsh Preservation Act of 1977, and the Bay Plan.. Federal agencies make consistency determinations regarding proposed federal activities including permits and licenses. BCDC can concur or object to a permit based on its policies and laws.

#### **E.4.7 California Endangered Species Act**

California provides procedures similar to the federal Endangered Species Act for nonfederal projects under the California Endangered Species Act, California Fish and Game Code (Section 2090 et seq.). For example, the California Department of Fish and Game (CDFG) can adopt a federal biological opinion as a state biological opinion under California Fish and Game Code (Section 2095). Upon disposal of FISCO out of federal ownership, it would be subject to these state regulations.

### **E.5. WATER RESOURCES**

Regulations relevant to water resources include the California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region's Water Quality Control Plan for the San Francisco Bay Region (RWQCB 1986), and National Pollutant Discharge Elimination System (NPDES) permit requirements for Stormwater Pollution Prevention Programs (SWPPPs) and point source discharges. The US Army Corps of Engineers regulates disposal of dredged materials, as well as placement of fill. The BCDC also regulates bay fill pursuant to the McAteer-Petris Act. In addition, the City of Oakland participates in National Flood Insurance Program (NFIP) of the Federal Emergency Management Agency (FEMA). Upon reuse, the project site would also need to be consistent with flood protection provisions of the Environmental Hazards Element of the City of Oakland's Comprehensive Plan (City of Oakland 1974).

#### **E.5.1 Water Quality**

Jurisdiction over water quality is established by the federal Clean Water Act and the state's Porter-Cologne Water Quality Control Act. The US EPA has delegated primary responsibility for water quality control to the California State Water Resources Control Board (SWRCB). This authority is implemented in the Bay Area by the San Francisco RWQCB. The SWRCB and RWQCB jurisdiction covers implementation of the NPDES permitting requirements for discharges from point (e.g., industrial outfall discharges) and nonpoint (e.g., stormwater runoff) sources of water pollutants. Pursuant to Section 319 of the Clean Water Act, the state has the lead role in identifying and controlling nonpoint sources of

pollution. The RWQCB implements the NPDES program through the issuance of permits for construction and industrial discharges.

The RWQCB also regulates water quality in accordance with state laws and policies identified in the San Francisco Basin Plan. This plan identifies beneficial uses of surface and ground waters, wetlands, and marshes and sets forth water quality objectives to protect the beneficial uses. Beneficial uses for central San Francisco Bay include industrial uses, processing, navigation, contact and noncontact recreation, fishing, commercial uses, wildlife habitat, species preservation, and fisheries habitat (RWQCB 1986, as amended). NPDES permit effluent discharge limitations are structured to achieve regional compliance with Basin Plan beneficial uses.

Urban runoff discharges are regulated under NPDES Permit Regulations for Stormwater Discharges, which are enforced by the RWQCB. Stormwater discharges relevant to the Port of Oakland are regulated in two categories, construction discharges and industrial discharges. The California SWRCB has issued a Statewide General Permit for Industrial Stormwater Discharges that covers non-point discharges from specific industries that apply and qualify for inclusion under the State General Permit. The General Permit does not include all discharges except for construction discharges. To be covered under the State's General Permit, dischargers must submit a Notice of Intent (NOI) to the Board.

At the Port, tenants with activities regulated under the General Permit submit individual NOIs to the SWRCB. The Port itself has not submitted a NOI for its marine terminals operations because the Port does not operate any activities regulated by the General Permit in the marine terminal area. In order to assist its tenants and others in complying with stormwater permit regulations, the Port has organized a working group to prepare a stormwater monitoring program. The Port also provides assistance to its tenants in the preparation of the required SWPPP as well as the application of best management practices (BMPs). Although the Port is developing the SWPPPs and BMPs for the marine terminals, the tenants are responsible for submitting NOIs to the SWRCB. No NOIs have been submitted for uses on the Port's recently leased portion of FISCO; however, NOIs for regulated uses on that property may be submitted in the near future (Herman, D., May 13, 1996, personal communication).

Construction activities at the project site that would result in the cumulative disturbance of over five acres of soil would be subject to measures required by the General Permit for Stormwater Discharges Associated with Construction Activities. Industrial wastewater discharges from point sources would be subject to RWQCB Waste Discharge Requirement permits.

FISCO currently complies with the Statewide General Permit for Industrial Stormwater Discharges through an NOI that covers the entire base as a single industrial site. The permit includes a SWPPP that includes existing and proposed

BMPs. The Navy has prepared a stormwater sampling and analysis program for review by the RWQCB and has been preparing its annual reports since 1992. As part of that program, water is tested twice annually between October and April; periodic inspections also are conducted (Wong, P., May 22, 1996, personal communication).

#### **E.5.2 Fill and Dredging**

The US Army Corps of Engineers has jurisdiction over certain structures or work in or affecting navigable waters of the US pursuant to section 10 of the Rivers and Harbors Act of 1899. The US Army Corps of Engineers also regulates discharge of dredge or fill materials pursuant to Section 404 of the Clean Water Act. The BCDC has regulatory authority over non-federal filling operations in the bay and inland within a 100-foot shoreline band from the line of high tide. The RWQCB regulates dredging and dredge material disposal as it relates to water quality. Future maintenance dredging also could be regulated under the Marine Protection, Research, and Sanctuaries Act to the extent that dredge materials are disposed of in the ocean.

US EPA, Region 9, US Army Corps of Engineers, San Francisco District, BCDC, RWQCB, and California SWRCB have been preparing a Long-term Management Strategy (LTMS) for the placement of dredged material in the San Francisco Bay Region. That study is intended to identify long-term solutions to the problem of regional dredge material disposal for a 50-year planning period. It is estimated that an average of 300 million cubic yards per year of dredge materials will require disposal through the planning period. The LTMS includes provisions for disposal, rehandling, and reuse of dredge material in both construction and fill activities. After the LTMS is adopted, the Port may elect to follow LTMS regional dredge disposal approaches or may identify its own dredge disposal site(s).

#### **E.5.3 Flooding**

Flood protection for nonfederal lands is administered by FEMA under the NFIP. Participating communities must implement specific flood plain management measures to reduce flood risks to new development. The necessary measures are developed on the basis of Flood Insurance Studies (FIS), which result in the preparation of Flood Insurance Rate Maps (FIRMs). Although FISCO is not under the NFIP, the City of Oakland is a participating community, and the site would be under the NFIP upon conveyance of jurisdiction to the Port. The most recent FIS and associated FIRMs prepared for the city did not include analysis of flood hazards within FISCO (FEMA 1982). The city's environmental hazard's element, flood hazard policies 1 and 3, provide relevant guidance regarding floodplain protection (City of Oakland 1974).

### **E.6. GEOLOGY AND SOILS**

The following is a brief summary of relevant plans, policies, and regulations governing geology and soils.



### **E.6.1 State of California**

The California Code of Regulations (CCR), Title 24, Part 2, also known as the California Building Code (CBC), contains the enforceable state building standards. These regulations are promulgated by the Division of the State Architect/Structural Safety Section, and the Office of Statewide Health Planning and Development. The California Building Standards Commission is responsible for coordinating all building standards in California. The City of Oakland Department of Public Works is responsible for enforcing these standards within the city.

The project site is located within seismic Zone 4, the highest seismic classification defined in the CBC. CBC seismic standards represent minimum requirements for new construction within Zone 4, a region in which the effective peak ground acceleration assumed in design calculations is 0.5g. In areas in which effective peak ground accelerations are likely to be greater than 0.5g, the minimum CBC requirements may not be adequate. The CBC defines two alternative methods for calculating design seismic forces— a static procedure and a dynamic procedure. The dynamic procedure allows for a site-specific determination of the structural design requirements, based on geologic, tectonic, seismologic, and soil characteristics associated with the site and is required for certain classes of structures.

The CBC (Section 1629A.2) requires that every structure have sufficient ductility and strength to undergo the displacement caused by the “upper bound earthquake” motion without collapse. The upper bound earthquake ground motion is defined as the motion having a 10 percent probability of being exceeded in a 100-year period or maximum level of motion that may ever be expected at the building site within the known geological framework.

Under the Alquist-Priolo Earthquake Fault Zoning Act, the California Division of Mines and Geology has delineated seismic zones that are deemed to be “sufficiently active and well-defined as to constitute a potential hazard to structures from surface faulting or fault creep.” The state geologist is also required to review continually new geologic and seismic data and to revise the earthquake fault zones or to delineate new zones based on new information. No active faults have been identified within the property boundaries of the project site. The nearest delineated active fault zone is the Hayward Fault, located approximately five miles east of the project site. The delineated San Andreas Fault is approximately 15 miles west of the site. The delineated Calaveras Fault is located approximately 15 miles to the east.

### **E.6.2 City of Oakland**

The Health and Safety Element of the City of Oakland General Plan (1991) requires that a soils and geologic report be submitted to the Department of Public Works prior to issue of all building permits to evaluate the potential for lateral spreading, liquefaction, differential settlement, and other types of ground failures.

It requires all structures of three or more stories to be supported on pile foundations that penetrate Bay Mud deposits and to be anchored in firm noncompressible materials, unless geotechnical findings indicate a more appropriate design. It also provides for the identification and evaluation of existing structural hazards and abatement of those hazards to acceptable levels of risk.

#### **E.6.3 Port of Oakland**

The Port of Oakland has adopted wharf design criteria to be used in design, construction, reconstruction, or repair of all existing and future wharf structures, except in the event that current engineering practice requires adjustments or modification of the wharf design criteria (Port Wharf Design Guidelines Ordinance No. 2972). The General Engineering Design Criteria include the following geotechnical standards:

- 1(d) A sufficiently deep cutoff wall or other means shall be provided along the back of the wharf to prevent erosion of yard materials by tidal, wave, or other action under the wharf.
- 1(e) The slope beneath the wharf shall be protected from erosion by placement of riprap or by other means, as recommended by a geotechnical consultant.
- 1(f) The dike or cut slope beneath the wharf shall be designed to withstand the same seismic forces as the wharf structure. It shall contain the soil behind the slope under the design earthquake loading.
- 1(g) Flexible connections shall be provided where utilities pass from the yard through the cutoff wall or other rigid structure at the back of the wharf.
- 2(c) The seismic loads shall be based on site response spectral curves developed by geotechnical consultants taking into account the effects of earthquakes on the two major faults in the vicinity of the wharf structure (San Andreas and Hayward) as well as other faults in the region.

#### **E.6.4 Bay Conservation and Development Commission**

The San Francisco Bay Plan (BCDC 1992) includes policies regarding the placement of fill for earthquake safety. Policy 1 states that the commission has appointed the Engineering Criteria Review Board, consisting of geologists, civil engineers specializing in soils engineering, structural engineers, and architects competent to and adequately empowered to (a) establish and revise safety criteria for bay fills and structures thereon; (b) review all except minor projects for the adequacy of their specific safety provisions and make recommendations concerning these provisions; (c) prescribe an inspection system to assure placement of fill according to approved designs; and (d) gather and make available performance data developed from specific projects. These activities would complement the functions of local building departments and local planning departments, none of which are presently staffed to provide soils inspections.

dioxide and nitrogen dioxide. CARB is responsible for developing a plan for meeting state PM<sub>10</sub> standards.

The California Clean Air Act does not set specific deadlines for achieving state air quality standards. Instead, attainment is required "as expeditiously as practicable", with various emission control program requirements based on the attainment status for ozone and carbon monoxide standards. The entire San Francisco Bay Area is classified as a moderate nonattainment area for the state ozone standard. The Bay Area is also classified as a nonattainment area for the state PM<sub>10</sub> standard. The entire San Francisco Bay Area is currently classified as an attainment area for the state carbon monoxide standards.

Air pollution control programs were established in California prior to the enactment of federal requirements. Responsibility for air quality management programs in California is divided between CARB as the primary state air quality management agency and air pollution control districts as the primary local air quality management agencies. Federal Clean Air Act legislation in the 1970s resulted in a gradual merger of local and federal air quality programs, particularly industrial source air quality permit programs.

#### **E.8.3 Air Quality Permits**

Many types of industrial and commercial facilities require air quality permits for their equipment and operations. The BAAQMD has the primary air quality permit authority throughout the San Francisco Bay Area. Permit authority is derived from a combination of state and federal legislation, and can be categorized into construction or installation authorizations for individual pieces of equipment and permits for continued operation of equipment and facilities.

In general, federally required air quality permit programs have been integrated into the pre-existing state and local permit program. This results in a two-step permit process for new emission sources: an initial authority to construct (ATC) permit and a subsequent permit to operate (PTO).

#### **E.8.4 Federal Clean Air Act Conformity Process**

Section 176(c) of the Clean Air Act requires federal agencies to ensure that actions undertaken in nonattainment or maintenance areas are consistent with the Clean Air Act and with federally enforceable air quality management plans. EPA has promulgated separate rules that establish conformity analysis procedures for transportation-related actions and for other (general) federal agency actions. Transportation conformity requirements apply to actions funded or approved by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA). General conformity requirements are potentially applicable to most other federal agency actions, but apply only to those aspects of an action that involve on-going federal agency responsibility and control over direct or indirect sources of air pollutant emissions. The conformity review process is intended to ensure that federal agency actions:



- Will not cause or contribute to new violations of any federal ambient air quality standards.
- Will not increase the frequency or severity of any existing violations of federal ambient air quality standards, and
- Will not delay the timely attainment of federal ambient air quality standards.

The transportation conformity rule applies primarily to highway construction projects and mass transit system projects. Harbor and railroad development projects generally are not subject to transportation conformity requirements (Tannehill, September 25, 1996, personal communication).

The EPA general conformity rule applies to most federal actions occurring in nonattainment or maintenance areas (such as the San Francisco Bay area) when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The federal nonattainment and maintenance pollutants subject to conformity analyses in the San Francisco Bay area include ozone precursors (reactive organic compounds and nitrogen oxides) and carbon monoxide. Applicable threshold levels for federal actions in the San Francisco Bay Area are 100 tons per year of reactive organic compounds, 100 tons per year of nitrogen oxides, and 100 tons per year of carbon monoxide.

Several categories of federal agency actions are exempted from the EPA general conformity rule because they are presumed to have federally controllable emissions below the threshold level. Transfers of ownership, interests, and titles in land, facilities, real property, or personal property to other public agencies or to private parties are among the actions exempted from conformity determination requirements. Lease arrangements, however, may be subject to the requirements of the conformity rule if the terms of the lease allow federal agencies to control the leasee's emission-generating activities.

## **E.9. NOISE**

Various federal, state, and local agencies have developed guidelines for evaluating land use compatibility under different noise level ranges.

### **E.9.1 Federal Agency Guidelines**

The federal Noise Control Act of 1972 (P. L. 92-574) established a requirement that all federal agencies must comply with applicable federal, state, interstate, and local noise control regulations. Federal agencies also were directed to administer their programs in a manner that promotes an environment free from noise that jeopardizes public health or welfare.

The Department of Defense evaluates the acceptability of noise levels at military installations according to three noise level zones—community noise equivalent

(CNEL) levels below 65 dB (Zone 1), CNEL levels of 65-75 dB (Zone 2), and CNEL levels above 75 dB (Zone 3). All land uses are considered compatible with Zone 1 noise levels. Industrial, office, and commercial uses are generally compatible with Zone 2 noise levels. Educational and residential land uses are not compatible with Zone 2 noise levels unless special acoustic treatments and designs are used to ensure acceptable interior noise levels. Residential and educational land uses are not compatible with Zone 3 noise levels. Industrial and manufacturing land uses may be acceptable in Zone 3 areas if special building designs and other measures are implemented.

A 1985 Air Installation Compatible Use Zone study update for NAS Alameda, located across the Oakland Inner Harbor from FISCO, identified areas of the FISCO, Port of Oakland, and Southern Pacific railyard properties as falling within Zone 2 (US Navy 1985). A small area in the southwest portion of the FISCO site fell within Zone 3 (US Navy 1985). Portions of Treasure Island, Yerba Buena Island, and the City of Oakland also fell within these boundaries. These zones were derived using 1983 NAS Alameda aircraft operations data. Since aircraft types and the number of operations have changed since that time, these zones may no longer be accurate. All military aircraft ceased operations at NAS Alameda in mid-1996; however, this base is still used periodically by commercial air craft.

#### **E.9.2 State Agency Guidelines**

The California Department of Housing and Community Development has adopted noise insulation performance standards for new hotels, motels, and dwellings other than detached single-family structures. These standards require that hotels, motels, and multiple-unit dwellings be constructed so that outdoor noise sources will not cause interior noise levels to exceed an annual average CNEL value of 45 decibels with the windows closed.

The California Department of Health Services (1987) has published guidelines for the noise element of local general plans. These guidelines include a noise level/land use compatibility chart that categorizes various outdoor CNEL ranges into as many as four compatibility categories (normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable), depending on land use.

The state noise element guidelines chart identifies normally acceptable noise levels for low density residential uses as CNEL values below 60 decibels. The normally acceptable range for high density residential uses is identified as CNEL values below 65 decibels. For educational and medical facilities, CNEL values of 60 to 70 decibels are identified as conditionally acceptable. For office and commercial land uses, CNEL values of 67.5 to 77.5 decibels are categorized as conditionally acceptable.

### **E.9.3 Local Noise Policies**

The noise element of the Oakland Comprehensive Plan contains a general policy to prevent or reduce exposure to excessive or annoying noise. Policy recommendations in the noise element urge a serious consideration of noise impacts in the planning and design of new or expanded roadways, with incorporation of noise mitigation, such as depressed roadway and noise barriers, where feasible. Other transportation policy recommendations include the use of roadway designs that discourage through traffic on local streets and neighborhood designs that encourage pedestrian and bicycle use. Land use policy recommendations include using buffer areas (including off-street parking, greenbelts, or general commercial areas) to protect residential areas from activities that produce excessive noise, odors, or traffic.

In June 1996 the City of Oakland adopted new noise ordinance provisions for the Oakland Municipal Code and Oakland Planning Code (Ordinances 11893, 11894, and 11895). Appendix K provides a simplified summary of noise limits contained in various sections of the Oakland noise ordinances. Different sections of the ordinances use different noise measurement units as formal limits. Some sections reference maximum allowable noise levels while others specify a pattern of noise level exceedance limits. Other sections set time limits for the operation of specified noise sources without specifying numerical noise limits. To the extent possible, the various provisions have been converted into equivalent average noise level values that are more easily summarized and compared within Figure K-1 in Appendix K.

## **E.10. UTILITIES**

Navy and DOD regulations outlined in the Navy's Environmental and Natural Resource Program Manual govern the operation of ships at sea.

### **E.10.1 Water Distribution System**

The Safe Drinking Water Act outlines sampling for lead and copper in drinking water. The Navy's Environmental and Natural Resource Program Manual identifies requirements and responsibilities for the protection of drinking water supplies at Naval installations.

### **E.10.2 Sanitary Sewer System**

NPDES permit requirements apply to the discharge of wastewater to the sanitary sewer.

### **E.10.3 Stormwater System**

The stormwater system operates under a NPDES, Statewide General Industrial Storm Water Discharge Permit. Specifics of the stormwater monitoring program are discussed in Section 3.7 (Water Resources). Stormwater is not treated prior to discharge to San Francisco Bay.



**E.10.4 Solid Waste Management**

The Solid Waste Disposal Act of 1965, as amended by the Resource Conservation and Recovery Act (RCRA) in 1976, requires that federal facilities comply with all federal, state, interstate and local requirements regarding the disposal and management of solid waste. RCRA establishes public safety and health standards for the disposal of solid waste, including requirements for landfill liners and leachate collection and treatment. RCRA and the Military Construction Codification Act of 1982 also provide for various means of recovering value from solid waste. Wastes may be recycled, reclaimed, used as a fuel supplement, or sold for profit.

California AB 939 requires California counties to divert 25 percent of their solid waste from landfills by 1995 and 50 percent by 2000. California Senate Bill (SB) 1223 establishes state programs designed to increase recycling and to encourage the development of commercial markets for recyclable materials. In general, the state places the burden of action and responsibility on the county to meet the state requirements.

Coast Guard regulations require privately-owned vessels to dispose of garbage three miles out to sea or contain it while in port. No plastics may be dumped at sea or in port.

**E.11. HAZARDOUS MATERIALS AND WASTE**

The following is a brief discussion of the major federal laws and regulations that apply to hazardous materials and waste at the project site.

**E.11.1 Resource Conservation and Recovery Act**

In response to the need to more closely regulate the ongoing handling, storage, transportation, and disposal of hazardous wastes, the US Congress passed RCRA in 1976. RCRA presents the federal regulations for the operation of hazardous waste storage, treatment, and disposal sites. Prior to RCRA, the state of California had passed the Hazardous Waste Control Law (HWCL) in 1972. This law provides regulations that equal or exceed the federal standards set by RCRA for hazardous waste management. The state of California was given "interim authorization" to implement RCRA under through enforcement of the HWCL. Final authorization for the state to implement RCRA was given in 1993. The responsible agency for enforcement of RCRA and HWCL is Cal EPA's Department Of Toxic Substance Control (DTSC).

**E.11.2 Comprehensive Environmental Response, Compensation, and Liability Act**

Originally passed in 1980, CERCLA created national policies and procedures to identify and remediate sites previously contaminated by the release of hazardous substances. CERCLA formalized the process for identification of sites and the prioritization for the cleanup of sites through the National Contingency Plan (NCP). The NCP contains criteria for the evaluation of sites that provide the basis for the preliminary assessment and site inspection. The evaluation that results in a

priority ranking of the site that determines whether it should be placed on the National Priority List (NPL). Facilities placed on the NPL are commonly referred to as "Superfund" sites. As noted previously, FISCO is not on the NPL.

#### **E.11.3 Community Environmental Response Facilitation Act**

Congress amended CERCLA in 1992 through the passage of CERFA. The purpose of CERFA is to expedite the identification of uncontaminated real property, within closing federal facilities, which offers the greatest opportunity for reuse and redevelopment. Uncontaminated or "CERFA-eligible" property is defined as any real property on which no hazardous substances and no petroleum products were stored for one year or more, known to have been released, or disposed. CERFA also provided clarification as to when "all remedial action has been taken." CERFA defined that all remedial action has been taken if construction and installation of an approved remedial design has been completed and the remedy has been demonstrated to the Administrator to be operating properly and successfully. The carrying out of long-term pumping and treating, or operation and maintenance, after the remedy has been demonstrated to the administrator to be operating properly and successfully does not preclude the transfer of the property.

Identification of uncontaminated properties at FISCO is the responsibility of the Navy. EPA is the regulatory authority for enforcement of CERCLA, including the CERFA amendments. However, the EPA has joined with Cal EPA in the implementation of CERFA for DOD facilities in California. Cal EPA serves as the lead agency for closures of military bases, including FISCO, not listed in the NPL. Cal EPA generally follows EPA guidance for CERCLA sites.

For properties that cannot qualify as "CERFA-eligible," the CERFA law specifies that the deed for the transfer of subject property shall include a covenant warranting that all remediation necessary to protect human health and the environment with respect to any hazardous substance remaining on the property has been taken prior to the date of transfer and that any response action or corrective action found to be necessary after the date of transfer shall be conducted by the United States.

Properties that contain or potentially contain contamination cannot be transferred prior to environmental remediation. However, the DOD has established a policy for lease of these properties. The DOD with regulatory participation can develop a site-specific or supplemental environmental baseline survey, or in specific cases use the base-wide EBS and a finding of suitability to lease (FOSL) or finding of suitability to transfer (FOST) for the property. The FOSL may include specific land use restrictions to protect human health and the environment, and to ensure government access for final investigations and remediation. A FOST may be issued only for properties on which all remedial actions necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken (pursuant to CERCLA 120(h)(3)).

**E.11.4 Aboveground and Underground Storage Tank Regulations**

ASTs and USTs are subject to regulation by federal, state, and local agencies. Public agencies involved in the implementation and enforcement of AST and UST regulations are:

- EPA, Region IX, San Francisco, California
- State Water Resources Control Board, Sacramento, California
- California Air Resources Board, Sacramento, California
- Regional Water Quality Control Board, Oakland, California
- Bay Area Air Quality Management District, San Francisco, California
- Alameda County Environmental Health Dept., Oakland, California
- Oakland Fire Department

California has a cooperative agreement with EPA (1991) to implement AST and UST regulations through the SWRCB. California in turn delegates authority to county and city agencies for local implementation and enforcement of AST and UST regulations. The ACEHD are the local agencies responsible for the implementation and enforcement of AST, UST and hazardous materials regulations. The BAAQMD is responsible for the implementation and enforcement of air quality regulations in Alameda County. The OFD is responsible for enforcing the UFC as they apply to hazardous materials and tanks.

**E.11.4.1 Federal Regulations**

EPA issued final regulations in 40 CFR Parts 280 and 281, regarding USTs containing petroleum products and hazardous substances on September 23, 1988. The specific goals of the federal UST regulations are to: (1) prevent and detect UST leaks and spills; (2) correct environmental impacts resulting from UST leaks and spills; (3) assure UST owners and operators can pay for UST contamination; and (4) assure each state has an UST regulatory program that is at least as stringent as the federal regulations. The regulations that may apply to USTs are the following:

- Code of Federal Regulations (CFR), Title 40, Section 280, Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks;
- 40 CFR 109, Criteria for State, Local, and Regional Oil Removal Contingency Plan;
- 40 CFR 112, Oil Pollution Prevention (Spill Prevention Control and Countermeasures);
- 40 CFR 113, Liability Limits for Small Onshore Storage Facilities;
- 40 CFR 114, Civil Penalties for Violation of Oil Pollution Prevention Regulations; and



- Clean Air Act (CAA), 55 Federal Register, revised 1990.

#### ***E.11.4.2 Spill Prevention Control and Countermeasure (SPCC) Plan***

Federal regulations for the prevention of and response to spills from storage tanks, include those facilities with an aggregate UST storage quantity of 42,000-gallons, or 1,320-gallon in AST storage or 660-gallons in one AST. These regulations are contained in Title 40 of the Code of Federal Regulations, Part 112 (40 CFR 112). In general, 40 CFR 112 outlines the requirements for facilities required to prepare a SPCC Plan, which includes a description of the UST facility, identifies potential spill hazards, discusses the current prevention procedures and personnel training and makes recommendations for corrective actions.

#### ***E.11.4.3 State Regulations***

The state of California has adopted more stringent set of UST and AST regulations than those of the federal government. These tank regulations outline, the reporting, monitoring, closure, and tank system requirements for USTs and ASTs. The following state laws and regulations are applicable for regulating USTs and ASTs:

- California Health and Safety Code (CHSC), Division 20, Chapter 6.7, Sections 25280 through 25299.7 Underground Storage of Hazardous Substances, October 1990;
- CHSC, Chapter 6.5, Sections 25250 through 25250.25 Management of Used Oil;
- California Code of Regulations (CCR), Title 23 Waters, Division 3 State Water Resources Control Board, Chapter 16 Underground Tank Regulations, May 5, 1994;.
- CCR, Title 22, Division 4.5, Chapter 12, Standards Applicable to Generators of Hazardous Wastes; and
- CCR, Title 22, Division 4.5, Chapter 15, Interim Status for Owners and Operators of Hazardous Waste Transfer, Treatment, Storage, and Disposal Facilities.

#### ***E.11.4.4 Local Fire Department Requirements***

The local fire department enforces the tank regulations set forth in the CCR and the regulations pertaining to human and environmental protection in the Uniform Fire Code (UFC) (1994 edition), particularly Articles 52 and 79, for the construction, installation, operation, and closure of ASTs and USTs storing flammable and combustible materials. In addition, the local fire enforce local and state regulations in the California Fire Code and California Fire Code Standards and any local ordinance pertaining to the fire code.

**E.11.5 Hazardous Waste Generator and Storage Regulations**

Business that generates and stores hazardous waste are required to file hazardous waste contingency and business plans set forth in the state hazardous waste program, as specified in, CCR, Title 22, Division 4.5, Chapter 12, Standards Applicable to Generators of Hazardous Waste and Chapter 15 Interim Status Standards for Owners and Operators of Hazardous Waste Transfer, Treatment, Storage and Disposal Facilities. These regulations outline the requirements for pre-transportation and accumulation of wastes, personnel training, preparedness and prevention, contingency plan and emergency procedures and tank systems requirements.

**E.11.6 Asbestos Regulations**

Removal of asbestos containing material (ACM) is regulated by EPA, Occupational Safety And Health Administration (OSHA), and the state of California. Asbestos fiber emissions into the ambient air are regulated in accordance with Section 112 of the Clean Air Act, which established the National Emissions Standards for Hazardous Air Pollutants (NESHAP). The NESHAP regulations address the demolition or renovation of buildings with ACM. The Toxic Substances Control Act (TSCA) and the Asbestos Hazardous Emergency Response Act (AHERA) provide the regulatory basis for handling ACM in school buildings. AHERA and OSHA regulations cover worker protection for employees who work around or remediate ACM.

Renovation or demolition of buildings with ACM has the potential to release asbestos fibers into the air. Asbestos fibers could be released due to disturbance or damage of various building materials, such as pipe and boiler insulation, acoustical ceilings, sprayed-on fireproofing, and other materials used for soundproofing or insulation. Only friable ACM, such as those listed above, are considered a health risk. Nonfriable ACM, such as transite piping, shingles, or floor tile, are not a health risk unless they are mechanically abraded in such a way as to produce dust.

**E.11.7 Lead Paint Regulations**

In 1992, Congress enacted the Residential Lead-based Paint Hazard Reduction Act of 1992, Title X of the Housing & Community Development Act (Public Law No. 102-550). As part of Title X, Congress amended the 1971 Lead-based Paint Poisoning Prevention Act (42 USC Section 4801-4846) and added a new Title IV to the Toxic Substances Control Act. Under this law, certain federally owned housing constructed prior to 1960 must be inspected for lead-based paint and lead-based paint hazards must be abated. Federal owned housing constructed after 1969 and before 1978 must be inspected for lead-based paint hazards and the data disclosed to prospective purchasers (42 USC Section 4822). The act also requires disclosure of lead-based paint hazard information.

**E.11.8 PCB Regulations**

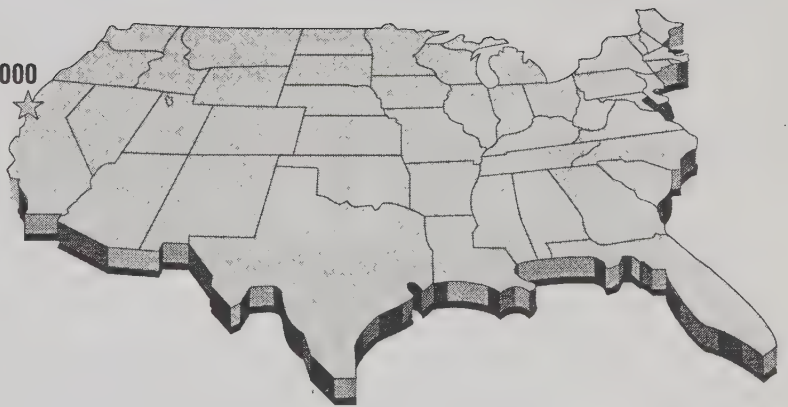
The disposal of these PCBs is regulated under TSCA, which banned the manufacture and distribution of PCBs except for PCBs used in enclosed systems.

By definition, PCB equipment contains PCB concentrations of 500 parts per million (ppm) or more, whereas PCB-contaminated equipment contains PCB concentrations of 50 ppm or greater but less than 500 ppm. The EPA, under TSCA, regulates the removal and disposal of all sources of PCBs containing 50 ppm or more; the regulations are more stringent for PCB equipment than for PCB-contaminated equipment. Primary federal regulations for controlling existing PCBs are found at 40 CFR Part 761. California regulations are more stringent than their federal equivalents and are found at California Code of Regulations Title 22. Within California, a waste fluid containing five ppm PCBs or more is regulated as hazardous.



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**FISCO/Vision 2000**



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## APPENDIX F SOCIOECONOMICS

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POPULATION

F-2

HOUSING

F-14

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# Appendix F

## Socioeconomics

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This Appendix presents information on existing socioeconomic conditions within the region of influence at several geographic levels. First, an overview of regional characteristics is provided for the three counties (Alameda, Contra Costa, and San Francisco) most likely to be affected by the project. For context, a brief description of conditions in the nine-county Bay Area as a whole also is provided. Then a description of citywide characteristics is provided for the City of Oakland, the jurisdiction in which the project is located. Finally, information on community-specific characteristics is provided for the West Oakland neighborhood, located south of Highway 80 and west of Highway 980.

Information about regional socioeconomic conditions provides a context for understanding the project site. Although workers may commute to the project site from other parts of the Bay Area, the majority of the Port of Oakland workforce lives in Alameda, Contra Costa, and San Francisco counties. According to the Local and Regional Economic Impact of the Port of Oakland, approximately 80 percent of the port employees reside in this three-county region, and within this region, more workers reside in Oakland than in any other city (O'Connell 1991). Oakland is also the jurisdiction in which the project is located. The community characteristics of West Oakland are described in detail because this area is closest to the project site. In addition, West Oakland has a predominantly poor minority population, making the evaluation of environmental justice considerations an important component of the socioeconomic impact analysis.

Major topics addressed in this section include population, income, employment, housing, and environmental justice. The base year used in describing existing conditions is 1990. This is the year of the latest US Census and the year for which data are most consistently available. Other primary data sources include the Association of Bay Area Governments (ABAG), State Economic Development Department (EDD), State Department of Finance (DOF), the US Navy, the Port

of Oakland (Port), the City of Oakland, and the Coalition for West Oakland Revitalization (CWOR).

## F.1 POPULATION

This section describes the population growth that occurred throughout the region between 1980 and 1990, based on US census data. Population projections for 2010, based on estimates prepared by ABAG, also are provided. Population increases and rates of change are summarized on Table F-1 and are discussed in each subsection below. Table F-2 presents information on the racial characteristics of the population in each geographic area. This information also is discussed and compared in the sections below.

**Table F-1**  
**Regional Population Trends and Projections**  
**1980, 1990, and 2010**

| Area                             | 1980      | 1990      | 1980-1990<br>% Change | 2010      | 1990-2010<br>% Change |
|----------------------------------|-----------|-----------|-----------------------|-----------|-----------------------|
| Bay Area                         | 5,179,759 | 6,020,147 | +16.2                 | 7,539,600 | +25.2                 |
| Alameda County                   | 1,105,379 | 1,276,702 | +15.5                 | 1,547,000 | +21.2                 |
| Contra Costa County              | 656,380   | 803,732   | +22.4                 | 1,104,700 | +37.4                 |
| City and County of San Francisco | 678,974   | 723,959   | +6.6                  | 819,000   | +13.1                 |
| City of Oakland                  | 339,337   | 372,242   | +9.7                  | 406,600   | +9.2                  |
| West Oakland                     | 21,130    | 24,188    | +14.5                 | NA        | NA                    |

Source: ABAG Projections 1994.  
1980 and 1990 US Census.

### F.1.1 Regional Overview

Population in the nine-county Bay Area increased 16 percent between 1980 and 1990, reaching just over six million. ABAG projects that the region's population will exceed 7.5 million by 2010. This represents a slower rate of growth than was experienced in the 1980's— an average annual increase of 1.26 percent, compared with a 1.62 percent average annual increase between 1980 and 1990. Alameda, Contra Costa, and San Francisco Counties contain nearly half (47 percent) of the total population of the Bay Area.

In 1990, the racial composition of the Bay Area's population was approximately 69 percent Caucasian, nine percent African American, less than 1 percent Native American, 15 percent Asian, and six percent of other racial origins. Persons of Hispanic origin made up 15 percent of the population. Between 1980 and 1990, the racial makeup of the regional population remained relatively constant, except that the proportion of Caucasians decreased (from 76 to 69 percent), while the percent of Asians increased (from 9 to 15 percent). The percentage of persons of Hispanic

origin also increased, from 12 to 15 percent. The percentage of the regional population comprised of African Americans remained constant.

**Table F-2**  
**Regional Racial Composition Trends,**  
**1980 and 1990**

| Area                             | Percent of Total Population |                  |                 |       |       | Hispanic Origin |
|----------------------------------|-----------------------------|------------------|-----------------|-------|-------|-----------------|
|                                  | Caucasian                   | African-American | Native American | Asian | Other |                 |
| Bay Area                         |                             |                  |                 |       |       |                 |
| 1980                             | 76.1                        | 9.0              | 0.7             | 8.9   | 5.3   | 12.2            |
| 1990                             | 68.9                        | 8.9              | 0.6             | 15.3  | 6.4   | 14.9            |
| Alameda County                   |                             |                  |                 |       |       |                 |
| 1980                             | 67.9                        | 18.4             | 0.7             | 7.8   | 6.1   | 11.8            |
| 1990                             | 59.6                        | 17.9             | 0.7             | 15.1  | 6.8   | 14.2            |
| Contra Costa County              |                             |                  |                 |       |       |                 |
| 1980                             | 81.5                        | 9.2              | 0.6             | 4.7   | 4.1   | 8.5             |
| 1990                             | 76.0                        | 9.3              | 0.7             | 9.6   | 4.5   | 11.4            |
| City and County of San Francisco |                             |                  |                 |       |       |                 |
| 1980                             | 58.2                        | 12.7             | 0.5             | 21.7  | 6.8   | 12.3            |
| 1990                             | 53.6                        | 10.9             | 0.5             | 29.1  | 5.9   | 13.9            |
| City of Oakland                  |                             |                  |                 |       |       |                 |
| 1980                             | 38.2                        | 46.9             | 0.6             | 7.8   | 6.4   | 9.6             |
| 1990                             | 32.5                        | 43.9             | 0.6             | 14.8  | 8.3   | 13.9            |
| West Oakland                     |                             |                  |                 |       |       |                 |
| 1980                             | 6.7                         | 86.6             | 0.3             | 2.7   | 3.8   | 4.6             |
| 1990                             | 9.3                         | 75.6             | 0.5             | 9.1   | 5.7   | 8.8             |

Source: 1980 and 1990 US Census.

### F.1.2 Alameda County

In 1990, Alameda County was the second most populous county in the Bay Area, after Santa Clara County, and it was the only county in the nine-county region to have four cities with populations of more than 100,000 residents—namely Oakland, Fremont, Hayward, and Berkeley. The county's population increased by more than 15 percent between 1980 and 1990, and it is projected to increase by an additional 21 percent between 1990 and 2010. Most of the projected growth, however, will occur in the Livermore/Amador Valley, which is expected to experience extremely high growth rates during this period. This eastern portion of the county includes the communities of Dublin, Livermore, and Pleasanton. Growth in the western portion of the county, which includes Oakland, is expected to be quite slow during this period, with the exception of Emeryville. While Emeryville is expected to attract more than 4,000 new residents, for a population increase of 72 percent, the populations of Oakland, Berkeley, Alameda, and



Albany all are expected to increase by less than 10 percent over the 20-year period. The Association of Bay Area Governments (ABAG) Projections '94 states that population growth in these areas is projected to be minimal since "much of western Alameda County is expected to reach buildout by the year 2000, especially along the bay plain" (ABAG 1993).

Of the approximately 1.28 million people living in Alameda County in 1990, approximately 60 percent were Caucasian, 18 percent were African American, less than one percent were Native American, 15 percent were Asian, and seven percent were of other racial origins. In addition, 14 percent of Alameda County residents identified themselves as being of Hispanic origin. The racial composition of Alameda county is different from that of the Bay Area as a whole. The percentage of Caucasian residents in the County is lower, while the percentage of African American residents is twice as high as it is in the region. The percentages of other racial groups are comparable to those found in the region. As in the region, the percentage of Caucasians in Alameda County has declined since 1980, while the percentage of African Americans has held steady, and the percentage of Asians has increased.

#### **F.1.3 Contra Costa County**

Contra Costa County's population increased by 22 percent between 1980 and 1990. This was the third highest rate of growth for any county in the Bay Area, behind Solano and Sonoma Counties. ABAG projects that population growth in Contra Costa County will increase by an additional 37 percent between 1990 and 2010.

Census data indicate that in 1990, the county's population was approximately 76 percent Caucasian, nine percent African American, less than one percent Native American, 10 percent Asian, and five percent persons of other racial origins. Persons of Hispanic origin made up about 11 percent of the county's population in 1990. The percentage of Caucasian residents in the county is higher than that of the region, and the percentage of Asians is lower. The percentage of Caucasian Contra Costa County residents has decreased since the 1980 census, while the percentages of all other racial groups have increased. Most groups had only slight increases, except for Asians, whose proportion of the total population doubled during the decade.

#### **F.1.4 City and County of San Francisco**

The City and County of San Francisco's population increased by less than 7 percent between 1980 and 1990. This was the second slowest rate of growth for any county in the Bay Area, above only Marin County, and only a fraction of the state of California's 25.7 percent growth rate for this same period (EDD 1994). ABAG projects that population growth will continue to be slow between 1990 and 2010. San Francisco's population is projected to increase by 13 percent during the 20-year forecast period, reaching 819,000 in 2010. By then, the city will have

only 11 percent of the region's population, compared to 13 percent in 1980 and 12 percent in 1990.

Census data indicate that in 1990 the city's population was approximately 54 percent Caucasian, 11 percent African American, less than one percent Native American, 29 percent Asian and six percent of other racial origins. Persons of Hispanic origin made up 14 percent of the city's population. The percentage of Caucasian residents in the city is lower than in the region, while the percentage of Asians is more than double the region's. The percentages of both Caucasian and African American San Francisco residents have decreased since the 1980 census, while the percentages of Hispanic and Asian residents have increased.

#### **F.1.5 City of Oakland**

According to US Census data, the City of Oakland's population increased by almost 10 percent between 1980 and 1990. Oakland contained the largest population in Alameda County in 1990, and it is ranked as the third most populous city in the region (ABAG 1993). ABAG projects that Oakland's population will increase by an additional nine percent between 1990 and 2010. This rate of increase for the 20-year period, however, is less than half the growth rate experienced during the 1980s.

In 1980, Oakland's population was 38 percent Caucasian, 47 percent African American, less than one percent Native American, eight percent Asian, and six percent of other racial origins. Almost 10 percent of the city's residents identified themselves as being of Hispanic origin. In 1990, the percentages of Oakland's Caucasian and African American populations declined to 33 percent and 44 percent, respectively, while the Native American population remained less than one percent. Over the same period, the city's Asian population nearly doubled, to 15 percent, while persons of other racial origins increased slightly, to eight percent. The percentage of persons of Hispanic origin also increased, from 10 to 14 percent in 1990.

#### **F.1.6 West Oakland**

Sixteen census tracts (4014 through 4027) lie within West Oakland, which is located south of Highway 80, west of Highway 980, north of the Oakland Estuary, and east of San Francisco Bay in the City of Oakland. The population of this community increased from 21,130 in 1980 to 24,188 in 1990, for a rate of growth that was about fifty percent higher than Oakland's overall growth rate for the same period.

West Oakland has had a long history of being a racially and culturally diverse community. In the early 1900s, the population was mostly Irish, but there were also large numbers of Chinese and Portuguese settlers, as well as a small core of African Americans who were families of Pullman porters who had moved there to be close to the railroad terminus. During World War II, many more African

Americans settled in West Oakland to work at the Kaiser shipyards. Many chose to stay even after the war ended and industrial activity declined (CWOR 1994).

Census data indicate that West Oakland's racial composition changed substantially between 1980 and 1990. While the absolute number of African Americans decreased very slightly during this period (from 18,278 in 1980 to 18,262 in 1990), the percentage of the community's population represented by this group decreased substantially, from 87 percent in 1980 to 76 percent in 1990. All other racial groups increased both in number and percentage.

The racial composition of West Oakland is distinctly different from that of the City of Oakland as a whole, as well as that of the region. More than three-quarters of West Oakland's population is African American, compared with 44 percent citywide and nine percent in the region. The second largest racial group is Caucasians, at nine percent, compared with 33 percent citywide and 69 percent regionwide. West Oakland's proportions of Asian and Hispanic residents are considerably lower than both the city's and the region's, although these segments of the population are growing.

#### **F.1.7 Income**

This section describes income characteristics in terms of mean household income, per capita income, and the percentage of persons living below the poverty level. Table F-3 presents mean household income and per capita income information, as reported by the US Census in 1980 and 1990. This table provides a basis for comparing data aggregated for the census tracts in West Oakland with other regional data. Table F-3 also provides data on the percentage of persons living below poverty level for each geographic location.

#### **F.1.8 Regional Overview**

According to US Census data, per capita income in the region more than doubled between 1980 and 1990, increasing from \$9,369 to \$19,716 (Table F-3). The percentage of persons living below the poverty level declined slightly over the decade, from 8.9 to 8.5. While the mean household income in the region more than doubled between 1980 and 1990, ABAG estimates the real increase at 24 percent, adjusted for inflation. ABAG notes that a substantial portion of this increase in household income came from an increase in the number of workers per household, rather than increased individual earnings. Recessionary forces have seriously weakened income growth in the region during the 1990s.

#### **F.1.9 Alameda County**

The mean household income in Alameda County more than doubled, from \$21,773 in 1980 to \$45,995 in 1990 (Table F-4). Adjusted for inflation, however, the mean household income rose only 23 percent during this period (ABAG 1993). According to US Census data, the per capita income in the county was \$17,547 in 1990. The percentage of the population living below the poverty level decreased slightly, from 11.3 percent in 1980 to 10.6 percent in 1990.



**Table F-3**  
**Regional Income and Poverty Level Trends,**  
**1980 and 1990**

| Area                             | Mean Household<br>Income | Per Capita Income | Percentage of Persons<br>below Poverty Level |
|----------------------------------|--------------------------|-------------------|--|
| Bay Area                         |                          |                   |  |
| 1980                             | 24,304                   | \$ 9,369          | 8.9  |
| 1990                             | 52,082                   | 19,716            | 8.5  |
| Alameda County                   |                          |                   |  |
| 1980                             | 21,773                   | 8,537             | 11.3   |
| 1990                             | 45,995                   | 17,547            | 10.6   |
| Contra Costa County              |                          |                   |  |
| 1980                             | 26,539                   | 9,823             | 7.6  |
| 1990                             | 55,033                   | 20,748            | 7.3  |
| City and County of San Francisco |                          |                   |  |
| 1980                             | 20,552                   | 9,265             | 13.7   |
| 1990                             | 45,664                   | 19,695            | 12.7   |
| City of Oakland                  |                          |                   |  |
| 1980                             | 17,970                   | 7,701             | 18.5   |
| 1990                             | 37,100                   | 14,676            | 18.8   |
| West Oakland                     |                          |                   |  |
| 1980                             | 9,986                    | 4,083             | 33.1   |
| 1990                             | 21,940                   | 7,763             | 36.4   |

Source: US Census, 1980 and 1990.

#### **F.1.10 Contra Costa County**

In 1990, households in Contra Costa County had a mean household income of \$55,033, more than double the mean in 1980 (Table F-3). Adjusted for inflation, the increase in the mean household income was only 19 percent. According to US Census data, the per capita income in the county was \$20,748, more than double the county's 1980 per capita income of \$9,823 (Table F-4). While the number of persons living below the poverty level increased by 8,781 between 1980 and 1990, the proportion of the county's population below the poverty level remained relatively constant (7.3 percent in 1990, compared with 7.6 percent in 1980).

#### **F.1.11 City and County of San Francisco**

The mean household income in San Francisco in 1990 was \$45,664, compared with \$20,552 in 1980 (Table F-3). Adjusted for inflation, this increase was 34 percent over the decade (ABAG 1993). According to US Census data, the per capita income in San Francisco was \$19,695 in 1990, more than double the per capita income of \$9,265 in 1980. The percentage of persons living below the poverty level declined slightly, from 13.7 percent to 12.7 percent.

**Table F-4**  
**Regional Labor Force, Civilian Employment and Unemployment,**  
**1980 and 1990**

| Area                             | No. of<br>Persons<br>16 and Over | No.<br>in Labor<br>Force | %<br>in Labor<br>Force | No. of<br>Civilians in<br>Labor Force | No. of<br>Civilians<br>Employed | % of<br>Unemployed |
|----------------------------------|----------------------------------|--------------------------|------------------------|---------------------------------------|---------------------------------|--------------------|
| Alameda County                   |                                  |                          |                        |                                       |                                 |                    |
| 1980                             | 866,056                          | 560,012                  | 64.7                   | 552,621                               | 514,727                         | 6.9                |
| 1990                             | 1,005,755                        | 689,517                  | 68.6                   | 676,896                               | 635,840                         | 6.1                |
| Contra Costa County              |                                  |                          |                        |                                       |                                 |                    |
| 1980                             | 500,757                          | 326,530                  | 65.2                   | 324,216                               | 305,313                         | 5.8                |
| 1990                             | 622,157                          | 430,746                  | 69.2                   | 429,902                               | 406,507                         | 5.0                |
| City and County of San Francisco |                                  |                          |                        |                                       |                                 |                    |
| 1980                             | 579,408                          | 370,497                  | 63.9                   | 364,689                               | 342,484                         | 6.1                |
| 1990                             | 620,818                          | 417,147                  | 67.2                   | 412,385                               | 386,530                         | 6.3                |
| City of Oakland                  |                                  |                          |                        |                                       |                                 |                    |
| 1980                             | 267,635                          | 159,355                  | 59.5                   | 157,519                               | 142,699                         | 9.4                |
| 1990                             | 288,543                          | 181,419                  | 62.9                   | 179,513                               | 162,488                         | 9.5                |
| West Oakland                     |                                  |                          |                        |                                       |                                 |                    |
| 1980                             | 15,652                           | 6,536                    | 41.8                   | 6,257                                 | 4,875                           | 22.1               |
| 1990                             | 17,262                           | 8,453                    | 49.0                   | 7,519                                 | 6,042                           | 19.6               |

Source: US Census, 1980 and 1990.

#### **F.1.12 City of Oakland**

The mean household income in Oakland in 1990, was \$37,100, more than double the 1980 figure of \$17,970 (Table F-3). ABAG estimates the real increase as 20 percent, adjusted for inflation (ABAG 1993). Oakland's per capita income in 1990 was \$14,676, an increase of 90 percent from 1980, when the per capita income was \$7,701. Unlike the region and the other two counties, the percentage of persons living below poverty in Oakland rose between 1980 and 1990, from 18.5 percent to 18.8 percent. The percentage of persons living below the poverty level in Oakland is more than double the regionwide percentage.

#### **F.1.13 West Oakland**

Income statistics for West Oakland reveal it as a very poor community, relative to the rest of the City of Oakland, Alameda County, and the region. The mean household income more than doubled between 1980 and 1990, but it remained more than 40 percent below the citywide mean household income and less than half the countywide mean (Table F-3). Per capita income rose 90 percent between 1980 and 1990, from \$4,083 to \$7,763. This was roughly half the citywide per capita income and one-third the countywide per capita income. In West Oakland, as in the City of Oakland as a whole, both the number and percentage of persons living in poverty increased between 1980 and 1990, but West Oakland's percentage increased more markedly, from 33.1 percent in 1980 to 36.4 percent in 1990. This

is almost double the citywide percentage of persons living below poverty, and it is more than four times the 8.5 percent found regionwide.

#### **F.1.14 Employment**

This section provides information on labor force, unemployment rates and employment by industry. The first subsection below provides an overview of employment trends by sector for the nine-county Bay Area. Subsequent sections describe labor force participation rates, the number of persons employed, unemployment rates and employment by sector for each of the three counties, the City of Oakland, and West Oakland. A discussion of FISCO and Port-related employment is included in the West Oakland section.

#### **F.1.15 Regional Overview**

The nine counties that comprise the Bay Area share a diversified and interconnected regional economy. San Francisco has served as a major financial and commercial center for the region, while the East Bay counties have attracted considerable industrial and manufacturing growth. Economic growth in the region was very strong from the 1940s until the mid-1970s. Since then, economic growth has slowed and the region has experienced several recessions. ABAG predicts that job growth from 1990 to 2010 will continue to be slow, relative to previous decades, and that the decentralization of jobs away from San Francisco to outlying suburbs will continue. Since 1980, the percentage of jobs in the services and retail trade sectors has been growing, while jobs in manufacturing and government have been shrinking. These trends are also expected to continue to 2010 (ABAG 1993).

***Employed residents and unemployment.*** The number of employed Bay Area residents increased from 2.5 million in 1980 to 3.1 million in 1990, an increase of 24 percent. Employment growth is expected to slow considerably between 1990 and 2010, however, due mainly to the recession experienced in the 1990s. Over the 20-year forecast period, the number of employed residents in the region is expected to increase to 3.9 million by 2010, for an increase of about 23 percent. The rate of growth in the number of employed residents during these two decades, therefore, will be less than the growth rate that took place during the single decade between 1980 and 1990 (ABAG 1993).

Unemployment rates in the nine Bay Area counties, as calculated by California's Economic Development Division, ranged from 2.7 percent in Marin County to 5.6 percent in Solano County in 1990. Unemployment rates in the three-county region were in the middle of this range— 4.2 percent in Alameda County, 4.3 percent in Contra Costa County, and 4.0 percent in San Francisco County, compared with the statewide unemployment rate of 5.6 percent. Unemployment is calculated by EDD using an economic model, resulting in unemployment rates that are different from (and lower than) the civilian unemployment rates reported by the US Census (Champlain 1996). Table F-4 shows unemployment rates derived from the census, so that comparisons can be drawn between West Oakland and the rest of the region.



**Employment by sector.** Table F-5 provides an overview of employment by selected industries for the three-county region, for the City of Oakland, and for West Oakland in 1990. As indicated on the table, the US Census for that year presents data for seven industrial sectors. All areas share a generally consistent pattern in the proportion of employed residents by sector. Nearly half of the three-county region's employed persons (46 percent) work in two of the industrial sectors, professional and related services (25 percent) and wholesale and retail trade (21 percent). These are followed, in descending order, by manufacturing, 13 percent; fire, insurance, and real estate (FIRE), nine percent; transportation, communications, and utilities - 9 percent; business and repair services, six percent; and construction, six percent.

#### F.1.16 Alameda County

**Employed residents and unemployment.** The number of employed Alameda County residents increased by 24 percent between 1980 and 1990. Growth in the number of employed residents is expected to slow considerably between 1990 and 2010, however, with the number of employed persons projected to increase by 20 percent over the 20-year period. The cities expected to experience the greatest increases in the number of employed residents during these two decades are Oakland, Livermore, Dublin, and Pleasanton (ABAG 1993).

As shown on Table F-4, 69 percent of persons 16 and over living in Alameda County were in the labor force in 1990, an increase from 65 percent in 1980. Alameda County's civilian unemployment rate in 1990 was 6.1 percent, down from 6.9 percent in 1980.

**Employment by sector.** Table F-5 includes a breakdown of employment by industrial sector in Alameda County in 1990, as reported by the US Census. The highest percentage of residents (46 percent) were employed in two sectors, the professional and related services sector (25 percent), and the wholesale and retail trade sector (21 percent). The lowest percentage of residents were employed in the Construction sector (six percent). The percentages of county residents employed in other industrial sectors were manufacturing, 16 percent; transportation, communications, and utilities, nine percent; FIRE, seven percent; and business and repair services, six percent.

#### F.1.17 Contra Costa County

**Employed residents and unemployment.** Table F-4 summarizes labor force and employment trends in Contra Costa County. The number of employed Contra Costa County residents increased by 33 percent between 1980 and 1990. This was considerably higher than the 24 percent growth rate of employed persons in the Bay Area as a whole. Growth in the number of employed residents is expected to slow between 1990 and 2010, with a 38 percent increase projected for the 20-year forecast period. This growth rate projection nevertheless is higher than the 23 percent increase projected for the Bay Area as a whole between 1990 and 2010.

Table F-5  
Number of Employed Residents by Selected Industries, 1990

| Area                             | Employed<br>Persons<br>16 and Over | Construction | Manufacturing | Transportation,<br>Communications<br>and Other<br>Utilities | Wholesale<br>and Retail<br>Trade | Fire,<br>Insurance and<br>Real Estate | Business and<br>Repair<br>Services | Professional<br>and Related<br>Services |
|----------------------------------|------------------------------------|--------------|---------------|---|----------------------------------|---------------------------------------|------------------------------------|---|
| Alameda County                   | 635,840                            | 36,508       | 100,180       | 56,626  | 130,601                          | 47,121                                | 38,561                             | 161,248                                 |
| Contra Costa County              | 406,507                            | 31,543       | 47,056        | 34,150  | 84,165                           | 46,217                                | 23,068                             | 96,243                                  |
| City and County of San Francisco | 386,530                            | 16,620       | 35,748        | 31,418  | 80,990                           | 41,617                                | 27,292                             | 105,373                                 |
| City of Oakland                  | 162,488                            | 8,492        | 17,284        | 14,668  | 30,258                           | 12,130                                | 10,793                             | 47,659                                  |
| West Oakland                     | 6,042                              | 326          | 591           | 577   | 1,180                            | 251                                   | 499                                | 1,671                                   |

Source: 1980 and 1990 US Census.

As shown in Table F-4, 69 percent of persons 16 years or over living in the county were in the labor force in 1990, an increase from 65 percent in 1980. Contra Costa County's civilian unemployment rate in 1990 was 5.0 percent, down from 5.8 percent in 1980.

**Employment by sector.** As shown on Table F-5, the highest percentage of Contra Costa County residents in 1990 were employed in the professional and related services sector (24 percent), and the wholesale and retail trade sector (21 percent). Fewer residents were employed in manufacturing, 11.6 percent; FIRE, 11.4 percent; transportation, communications, and utilities, 8.4 percent; construction - 7.8 percent; and services, six percent.

#### **F.1.18 City and County of San Francisco**

**Employed residents and unemployment.** The number of employed residents in the City and County of San Francisco increased 13 percent between 1980 and 1990 (Table F-4). Over the next two decades, the rate of growth is expected to be slower, with the number of employed residents projected to increase by only 13 percent over the 20-year period (ABAG 1993).

As shown on Table F-4, 67 percent of persons 16 and over living in San Francisco were in the labor force in 1990, compared with 64 percent in 1980. The civilian unemployment rate for the City and County of San Francisco was 6.3 percent in 1990, compared with a rate of 6.1 percent in 1980.

**Employment by sector.** In 1980, the highest percentage of San Francisco residents were employed in the professional and related services sector (27 percent), and wholesale and retail trade sector (21 percent), and the smallest percentage were employed in the construction sector (four percent). Of the remaining industrial sectors, 11 percent were employed in the FIRE sector, nine percent in manufacturing, eight percent in transportation, communications and utilities, and seven percent in business and repair services (Table F-5).

#### **F.1.19 City of Oakland**

**Employed residents and unemployment.** As indicated on Table F-4, the City of Oakland experienced a relatively low rate of growth in employment between 1980 and 1990, about 14 percent. Between 1990 and 2010, the employment growth rate for Oakland is projected to drop substantially lower than the growth rates for Alameda County and the three-county region as a whole during the same period. This projection reflects job losses due to the severe economic slowdown in California between 1990 and 1995, combined with the effects of military base closures (ABAG 1993).

As shown on Table F-4, 63 percent of persons 16 and over living in Oakland were in the labor force in 1990, compared with 60 percent in 1980. The City of Oakland's civilian unemployment rate in 1990 was 9.5 percent. This rate was substantially higher than those of Alameda County and the region.



**Employment by sector.** As shown on Table F-5, the distribution of employed Oakland residents among the selected industrial sectors generally conforms to the distribution within the three-county region as a whole. professional and related services employ the most residents, 29 percent, followed by wholesale and retail trade, at 19 percent. The Construction industry employs the lowest percentage of residents, five percent. Other sectors are manufacturing, 11 percent; transportation, communications and utilities, nine percent; FIRE, eight percent; and business and repair services, seven percent.

#### F.1.20 West Oakland

**Employed residents and unemployment.** West Oakland had proportionately fewer residents in the labor force compared with other parts of the region in both 1980 and 1990 (Table F-3). Less than half (49 percent) of persons 16 and over in West Oakland were in the labor force. This represented a substantial increase since 1980, when the proportion was 42 percent, but it is considerably lower than the percentages of persons in the labor force in Oakland (63 percent) and the three counties (67-69 percent) in 1990. The percentage of unemployed persons in West Oakland was 19.6 percent in 1990, down from 22.1 percent in 1980.

**Employment by sector.** As shown on Table F-5, the pattern of employment of West Oakland residents is similar to that of Oakland and the region, with a slightly greater proportion of residents employed in the transportation, communications and other utilities and business and repair services sectors. professional and related services employed the highest percentage of West Oakland residents (28 percent). This was followed by wholesale and retail trade - 20 percent; manufacturing, 10 percent; transportation, communications and other utilities, 10 percent; business and repair services, eight percent; construction, five percent; and FIRE, four percent.

**Port of Oakland.** According to the Port of Oakland Maritime Economic Impact Study, maritime activity related to the Port employed 6,694 persons in 1990. Table F-6 shows the number of employees by type. The largest percentage of jobs were in trucking (23 percent), government (15 percent), and warehousing (14 percent). Almost three-fourths of these workers lived in the three-county region, and more than 18 percent lived in Oakland in 1990 (Port of Oakland 1990).

This maritime activity at the Port generated more than \$220 million in personal income from direct jobs alone in 1990. The Port estimates that the direct jobs at its maritime facilities supported an additional 2,900 induced jobs in the region as a result of maritime industry worker spending, for a total of almost 10,000 jobs. In addition, Port activities indirectly support a wide variety of other types of businesses, such as importers and exporters, throughout the region.

**Table F-6**  
**Employment Related to Maritime Activity at the Port of Oakland, 1990**

| Employment Sectors            | Number of Employees | Percent |
|-------------------------------|---------------------|---------|
| Railroad                      | 570                 | 8.5%    |
| Trucking                      | 1,549               | 23.1%   |
| Terminal employees            | 411                 | 6.1%    |
| ILWU (longshore)              | 562                 | 8.4%    |
| Towing                        | 31                  | 0.5%    |
| Pilots                        | 12                  | 0.2%    |
| Agents                        | 472                 | 7.1%    |
| Surveyors/chandlers           | 30                  | 0.4%    |
| Forwarders                    | 558                 | 8.3%    |
| Warehousing                   | 924                 | 13.8%   |
| Container repair/storage      | 29                  | 0.4%    |
| Government/military           | 993                 | 14.8%   |
| Marine construction/shipyards | 148                 | 2.2%    |
| Barge                         | 27                  | 0.4%    |
| Shippers/consignees           | 100                 | 1.5%    |
| Port of Oakland staff         | 202                 | 3.0%    |
| Banking/insurance             | 75                  | 1.1%    |
| Total direct jobs             | 6,694               | 100.0%  |

Source: Port of Oakland, 1996.

**FISCO.** An estimated 5,591 workers were directly employed at FISCO facilities in 1990. These included 3,265 workers at shore facilities, plus 2,326 personnel associated with ships homeported at FISCO. Almost all of these jobs (5,327 or 95 percent) were located on FISCO parcels 4 and 5. Assuming the same multiplier for these jobs as for the Port's maritime jobs, these direct jobs would have supported an additional 2,422 jobs, for a total of over 8,000 jobs.

## F.2 HOUSING

This section provides information on housing supply and housing costs in the project vicinity and the region. Table F-7 presents an overview of regional housing characteristics and trends, based on 1980 and 1990 US Census data. The table and narrative discussion include information on housing trends and vacancy rates for West Oakland, as well as for the City of Oakland, the three counties, and the region.

**Table F-7**  
**Regional Housing Characteristics and Trends, 1980 and 1990**

| Area                             | No. of<br>Housing Units | Vacancy Rate | Median Value-<br>Owner-Occupied<br>House | Median Rent |
|----------------------------------|-------------------------|--------------|--|-------------|
| Bay Area                         |                         |              |  |             |
| 1980                             | 2,061,343               | 4.2          | \$ 98,100                                | \$ 285      |
| 1990                             | 2,365,323               | 5.0          | 255,476                                  | 690         |
| Alameda County                   |                         |              |  |             |
| 1980                             | 444,607                 | 4.1          | 84,900                                   | 240         |
| 1990                             | 504,109                 | 4.9          | 225,300                                  | 626         |
| Contra Costa County              |                         |              |  |             |
| 1980                             | 251,951                 | 4.0          | 94,300                                   | 266         |
| 1990                             | 316,170                 | 5.0          | 219,400                                  | 613         |
| City and County of San Francisco |                         |              |  |             |
| 1980                             | 316,608                 | 5.7          | 103,900                                  | 266         |
| 1990                             | 328,471                 | 7.0          | 298,900                                  | 613         |
| City of Oakland                  |                         |              |  |             |
| 1980                             | 150,274                 | 5.7          | 66,600                                   | 202         |
| 1990                             | 154,737                 | 6.6          | 117,400                                  | 485         |
| West Oakland                     |                         |              |  |             |
| 1980                             | 9,666                   | 11.7         | 35,921                                   | 126         |
| 1990                             | 9,866                   | 12.0         | 101,871                                  | 323         |

Source: 1980 and 1990 US Census.

### F.2.1 Regional Overview

The housing stock in the nine-county Bay Area increased by approximately 15 percent between 1980 and 1990, reaching almost 2.4 million units. Almost half of the region's housing units are located in three counties— Alameda, Contra Costa, and San Francisco. The housing vacancy rate in the Bay Area as a whole was 5.0 percent in 1990, with a 3.2 percent vacancy rate for units that were actually available for sale and for rent.

Of the occupied housing units in the region in 1990, 56 percent were owner-occupied, and 44 percent were renter-occupied. The median rent in the Bay Area was \$690 in 1990. The median value of an owner-occupied unit was \$255,476. Between 1980 and 1990, the median value of a home in the Bay Area increased by more than 160 percent.

### F.2.2 Alameda County

There were just over 500,000 housing units in Alameda County in 1990. The county's housing stock had increased by 13 percent since 1980, adding about 60,000 new housing units. Of the total housing units in the county in 1990, 4.9



percent were vacant. The vacancy rate for units available for rent and for sale was 3.0 percent.

The owner-occupancy rate in the county in 1990 was 53 percent. The median rent in Alameda County was \$626. The median home value was \$225,300. Home values increased by more than 165 percent from 1980, when the median home value in the county was \$84,900.

#### **F.2.3 Contra Costa County**

Contra Costa County's housing stock increased 26 percent between 1980 and 1990 (Table F-7). The vacancy rate for the total housing stock was 5.0 percent, up from 4.0 percent in 1980. The vacancy rate for units actually available for sale and for rent was 3.2 percent.

In 1990, 64 percent of Contra Costa's housing units were owner-occupied. The median value of owner-occupied homes was \$219,400. This reflects an increase of 133 percent from the 1980 median value of \$94,300. Nonetheless, this value is the lowest of the three counties, which may account for the higher rate of owner occupancy. The median rent was \$613 in 1990, compared to \$266 in 1980.

#### **F.2.4 City and County of San Francisco**

San Francisco had 328,471 housing units in 1990. The city's housing stock had increased by only four percent since 1980, reflecting the relative scarcity and high cost of land available for residential development, as well as the continuing suburbanization of the region. The vacancy rate in the city in 1990 was 7.0 percent, up from 5.7 percent in 1980. The vacancy rate for units actually available for sale and for rent, however, was 4.3 percent.

In 1990, 35 percent of homes were owner-occupied. This is considerably below the regionwide rate of 56 percent and reflects San Francisco's high housing costs relative to the rest of the region. The median value of an owner-occupied unit in 1990 was \$298,900, a 188 percent increase from 1980, when the median value was \$103,900. Median rent in San Francisco was \$613 in 1990, compared to \$266 in 1980.

#### **F.2.5 City of Oakland**

There were 154,737 housing units in Oakland in 1990. The city's housing stock had increased by only three percent since 1980, when there were 150,274 housing units. This slow rate of increase reflects the fact that Oakland's residential land is mostly built out. Of the total number of housing units in the city in 1990, 5.7 percent were vacant. This rate was slightly higher than Alameda County's vacancy rate of 4.9 percent. The vacancy rate for units in the city actually available for rent and for sale was 4.2 percent.

The owner-occupancy rate in the City of Oakland in 1990 was 39 percent, considerably lower than Alameda County's overall owner occupancy rate of 53

percent. The median rent was \$485, and the median value of an owner occupied home was \$117,400. Home values increased by 76 percent between 1980 and 1990. This is less than half the percentage increase experienced regionwide.

#### **F.2.6 West Oakland**

West Oakland contained almost 10,000 housing units in 1990. The local housing stock had increased only two percent between 1980 and 1990. Of the total housing units in West Oakland in 1990, 12.0 percent were vacant, more than double the 5.7 vacancy rate for the city. The vacancy rate for units in the area actually available for rent and for sale in 1990 was 6.7 percent.

The owner-occupancy rate in West Oakland in 1990 was 18 percent— only half the citywide and one-third the regionwide owner-occupancy rate. This reflects the large number of public housing units in West Oakland. There are more than 1,000 units of government-sponsored housing in the community. Most of these are concentrated in the Campbell Village, Acorn, and Oak Center projects (CWOR 1994).

In 1990, the median rent in West Oakland was \$323 and the median value of an owner-occupied home was \$101,871. Home values increased by 184 percent from 1980, when the median value was \$35,921. West Oakland's housing stock is some of the oldest in the city. Many of the structures are not up to code or lack adequate heating or plumbing. CWOR reports that West Oakland contains 1,359 vacant and boarded up structures, which represents about 14 percent of all housing in the community. At the same time, the neighborhood's proximity to downtown Oakland has begun attracting a new population, which has raised fears about gentrification pressures (CWOR 1994).

#### **F.2.7 FISCO**

There are three units of housing on FISCO that house Navy personnel: Quarters A (Buildings 324), Quarters B (Buildings 325), and Quarters C (Buildings 323). These three units are located on the block bounded by 3rd Street, E Street, 4th Street, and G street in the northern portion of FISCO.

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**FISCO/Vision 2000**



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## APPENDIX G CULTURAL RESOURCES

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MEMORANDUM OF AGREEMENT SIGNED IN 1994

FIRST AMENDED MEMORANDUM OF AGREEMENT SIGNED IN 1997

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**MEMORANDUM OF AGREEMENT**  
**SUBMITTED TO THE ADVISORY COUNCIL ON HISTORIC PRESERVATION**  
**PURSUANT TO 36 CFR SECTION 800.6(a)**

WHEREAS, the Department of the Navy (Navy) has determined that the leasing of approximately 220 acres of the Fleet Industrial Supply Center (FISC), Oakland, California, (the undertaking) will have an effect on the Naval Supply Center Oakland Historic District, a property eligible for inclusion in the National Register of Historic Places, and has consulted with the California State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, the Port of Oakland participated in the consultation and has been invited to concur in this Memorandum of Agreement;

NOW, THEREFORE, the Navy and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

**Stipulations**

The Navy and the Port of Oakland will ensure that the following measures are carried out:

1. Prior to the demolition of any of the buildings on the land to be leased to the Port of Oakland (Phases I - III, Exhibit 1), the Navy shall contact the Office of National Register Programs, Western Region, National Park Service (NPS), 600 Harrison Street, Suite 600, San Francisco, California to determine what level and kind of recordation is required for the property. Unless otherwise agreed to by NPS, the Navy shall ensure that all documentation is completed and accepted by the Historic American Buildings Survey, NPS, prior to the demolition, and that copies of this documentation are made available to the SHPO and appropriate local archives designated by the SHPO.

2. By January 1, 1998 the Navy will prepare and initiate implementation of a Historic and Archeological Resources Protection (HARP) Plan in consultation with the SHPO, for those portions of the Naval Supply Center Oakland Historic District that will not be leased to the Port of Oakland and will nominate to the National Register of Historic Places, as required by Section 110(a)(2) of the National Historic Preservation Act, as amended, those remaining portions of the Naval Supply Center Oakland Historic District that appear to qualify.

3. The Navy, through FISC Oakland Public Affairs Officer, will allow for guided tours of the Naval Supply Center Oakland Historic District for interested community groups upon request on such terms and conditions as the Commanding Officer of FISC Oakland determines are compatible with the security and operation of the facility.



MEMORANDUM OF AGREEMENT

Naval Supply Center Oakland Historic District

Navy Lease to Port of Oakland

Page 2

4. The Port of Oakland will publicize tours of the Naval Supply Center Oakland Historic District and arrange for trained docents to lead the tours.

5. The Port of Oakland will phase demolition of the historic buildings on the property it leases from the Navy at FISC Oakland. Buildings will be demolished only after HABS recordation is complete and an approved sublease for use of the land occupied by the building(s) requires its (their) removal.

6. The Navy will provide the Pacific Locomotive Association, Inc., a non-profit corporation, railroad track for use on the Niles Canyon Railway, a historical railroad museum from the rail car marshaling yard of Naval Supply Center Oakland Historic District.

7. The Port of Oakland agrees to carry out the obligations set forth in its letter of July 11, 1994 to the Oakland Landmarks Preservation Advisory Board attached hereto as Exhibit 2. The Navy will make a vigorous effort to obtain Legacy or other funding in Fiscal Year 1995 pursuant to the Department of Defense Appropriations Act of 1991 (PL 101-511) et seq. to assist the Port with the obligations assumed by the Port in Exhibit 2. Except for the aforementioned effort to obtain funding, the Navy assumes no obligations or responsibilities with respect to the provisions of Exhibit 2.

8. Should the SHPO object within 30 days to any proposals of the HARP Plan for FISC Oakland prepared pursuant to this Memorandum of Agreement, the Navy shall consult with the SHPO to resolve the objection. If the Navy determines that the objection cannot be resolved, the Navy shall request the further comments of the Advisory Council on Historic Preservation (Council) pursuant to 36 CFR Section 800.6(b). Any Council comment provided in response to such a request will be taken into account by the Navy in accordance with 36 CFR Section 800.6(c)(2) with reference only to the subject of the dispute; the Navy's responsibility to carry out all actions under this Memorandum of Agreement that are not the subjects of the dispute will remain unchanged.

Execution of this Memorandum of Agreement by the Navy, the Port, and the California SHPO, its subsequent acceptance by the Council, and implementation of its terms, evidence that the Navy has afforded the Council an opportunity to comment on the lease of approximately 220 acres of FISC Oakland to the Port and its effects on historic properties, and that the Navy has taken into account the effects of the undertaking on historic properties.

MEMORANDUM OF AGREEMENT

Naval Supply Center Oakland Historic District

Navy Lease to Port of Oakland

Page 3

DEPARTMENT OF THE NAVY

By: J. R. Bailey Date: 8 Nov 94

J. R. Bailey, CAPT, SC, USN

[Name and Title of Signer]

Commanding Officer, Fleet and Industrial Supply Center Oakland

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

By: Cheryl N. Widell Date: December 5, 1994

CHERYL N. WIDELL, CA STATE HISTORIC PRESERVATION OFFICER

[Name and Title of Signer]

Concur:

PORT OF OAKLAND

APPROVED AS TO FORM AND LEGALITY THIS

22nd day of November 1994

Stanley P. Hobart

Port Attorney

By: C. R. Roberts Date: 11/15/94

Charles R. Roberts, Executive Director

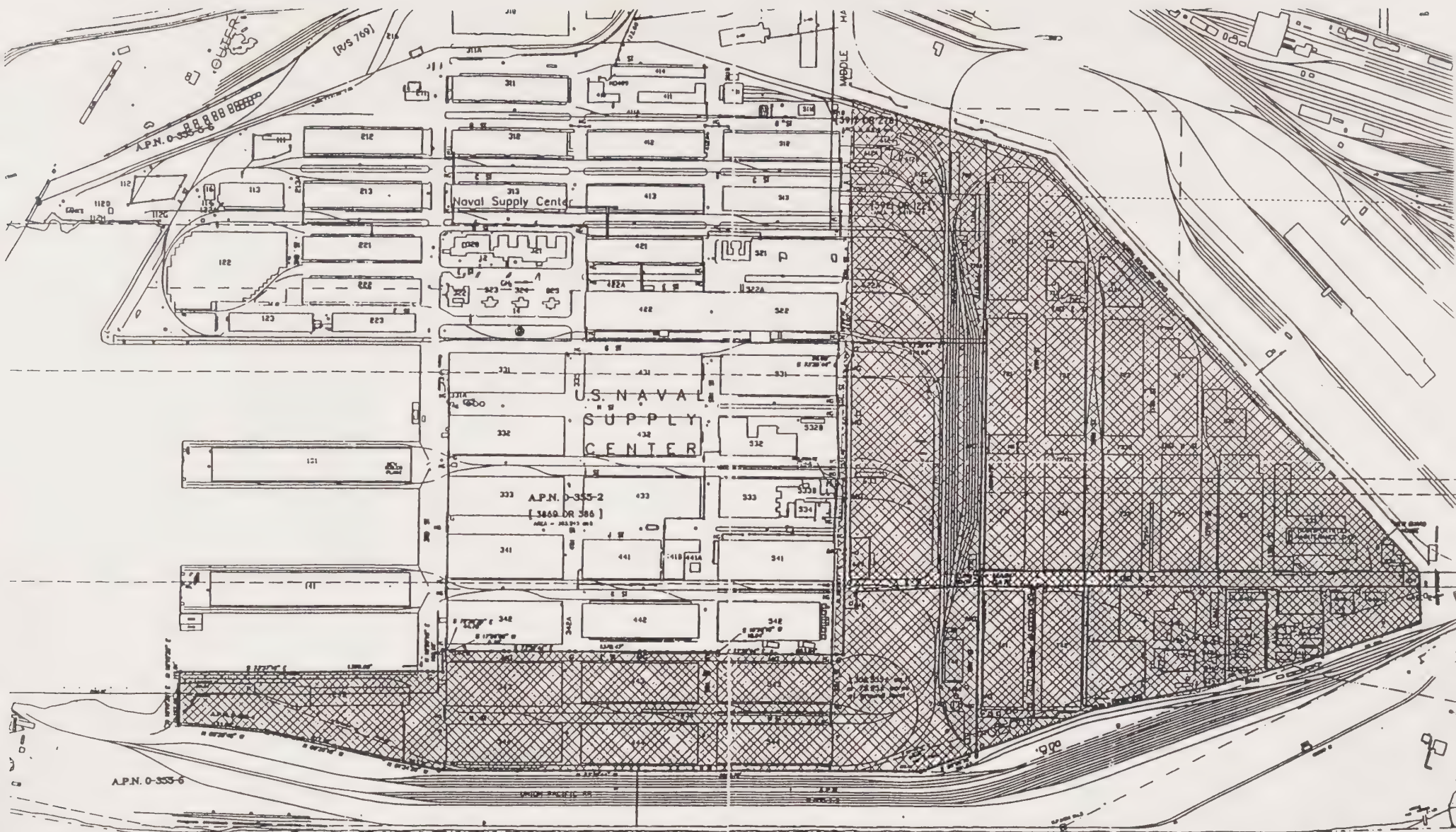
[Name and Title of Signer]

ACCEPTED for the Advisory Council on Historic Preservation

By: Robert D. Beach Date: 12/22/94

[Name and Title of Signer]





INNER HARBOR CHANNEL

CITY OF OAKLAND  
CITY OF ALAMEDA

OAKLAND CS LARRY

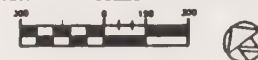


Exhibit  
1





# PORT OF OAKLAND

July 11, 1994

Mr. Les Hausrath, Chair and Board Members  
Oakland Landmarks Preservation Advisory Board  
City Hall  
One City Hall Plaza  
Oakland, CA 94612

RE: Proposed Redevelopment of Naval Supply Center Oakland

Dear Mr. Hausrath and Board Members:

The Port has reviewed the recommendations of the Landmarks Preservation Board outlined in the letter signed by you dated April 27, 1994. After consideration of the options available, and consultation with City staff, the Port agrees to the following program to mitigate impacts to the potential historic district at the Naval Supply Center. As a formality, the Port will require approval from the Board of Port Commissioners prior to its implementation.

1. Provide well publicized tours of the NSCO led by trained docents, in coordination with the Navy on various dates.
2. Phase demolition.
3. Make a vigorous effort to submit a grant application, and to secure funding in the amount of \$150,000 for a Legacy Grant under the Department of Defense. It is estimated that \$50 million is available for grants under this program. Applications are due by August 15, 1994.

The grant application would include:

- o Preparation of high caliber video for national viewing. PBS or documentary quality is desired. This effort would include a search for World War II footage of NSCO.
- o Development of oral histories of NSCO.
- o Development of a monograph in consultation with the Oakland Heritage Alliance, for public dissemination and for use in video.
- o Development of NSCO "exhibits" or story boards in consultation with the Oakland Museum, to be located at Berth 40 (Port View Park under development) and at the Oakland Airport in one of the terminal buildings. Intent is to place exhibit in a location with maximum public exposure. The intent would be to use artifacts from NSCO, if available, in the exhibit.
- o The goal of the Landmarks Board is for video and exhibits, publications, etc. to capture the history of World War II and its tremendous impact on the social, cultural and industrial development of Oakland, and the role Oakland and its Naval facilities played in World War II events.
- o If the grant is not obtained the first year, the Port will resubmit the application the next year.

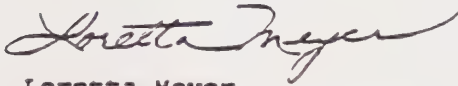
Mr. Les Hausrath and Board Members  
July 11, 1994  
Page 2

- o If the Legacy Grant is secured, mitigation Item Number 7 below is dissolved.
    - o The Port will administer the Grant Application, and the Port will work to identify an appropriate grantee to administer the mitigation program, and include funds in the grant application for the costs of administration.
  - 4. The Port, Navy and City, during the Section 106 process, will strive to develop this mitigation program for Historic Issues that will cover this lease action and future base closure actions that may lead to JIT and other berth development in NSCO location. This is due to the fact that there is not enough available information on the future uses of the base.
  - 5. Reconsider the preservation of the barracks building if the Navy and Port can, as an alternative, preserve in place one or more of the administrative buildings in the Northwest portion of Base, as part of the concept under Item Number 4. The Port will identify buildings in the northwest portion of the site that are suitable for preservation in lieu of the barracks. This area was nominated for preservation by West Oakland citizens that worked at the base during the War. They will be invited to participate in the identification of buildings for preservation. This concept will require Navy concurrence prior to final agreement.
  - 6. Defer any Bay Trail or Public Access requirements or discussion until the base closure stage of the NSCO and initiation of the JIT project and environmental review. The Port will consult with Bay Trail advocates at this next juncture.
  - 7. If Legacy funds are not granted within two years from the date of this letter, the Port will develop the video and exhibits listed under Item Number 3 above, but with more modest resources funded by Port. The amount of resources would be commensurate with lease and project development, and would not exceed \$55,000 in 1994 dollars, adjusted for inflation according to the Consumer Price Index, beginning one year, and no longer than two years from the date of this agreement.
- The Port will determine the appropriate party to contract with a consultant to develop and administer the Mitigation Program. This may be a combination of the City, the Oakland Museum, the Port, and the Navy.
- 9. Record buildings to HABS standards prior to demolition.
    - o Include a description of the spatial and architectural relationships of the buildings that would be utilized in the formal video program discussed under Item Number 3 above.
    - o Select and preserve suitable artifacts for display.
  - 10. This agreement is contingent upon the lease of the Naval Supply Center to the Port. If the lease is not consummated, the Port will not implement the above described mitigation program, since there will be no demolition of structures, and therefore no need for mitigation of impacts to the potential Historic District.
  - 11. This represents the City's agreement for mitigation under the CEQA\NEPA review of the Naval Supply Center lease to the Port, as well as the NHPA Section 106 consultation.

Mr. Les Hausrath and Board Members  
July 11, 1994  
Page 3

We look forward to working with the City to preserve this important part of Oakland's heritage. We believe that the creative use of resources will produce a product that will inform Oakland's citizens of the important role that the City played as part of the World War II effort.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Loretta Meyer". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Loretta Meyer,  
Environmental Assessment Supervisor

cc: Helaine Kaplan-Prentice, Secretary



CITY HALL • ONE CITY HALL PLAZA • OAKLAND, CALIFORNIA 94

Landmarks Preservation  
Advisory Board

TTY 839-6

July 14, 1994

Loretta Meyer  
Environmental Assessment Supervisor  
Port of Oakland  
530 Water Street  
Oakland, California 94604-2064

Dear Ms. Meyer:

At its July 11, 1994 meeting, the Landmark Preservation Advisory Board expressed its concurrence with the mitigation program for demolition at the Oakland Naval Supply Center as outlined in your letter of the same date. A copy of your letter is attached.

For purposes of clarification, under Item 11, the Landmarks Board represents the City only in so far as the Board is empowered to advise on matters related to historic preservation. Also, it is our understanding that under Item 9 a video record of the site of quality useable for the documentary will be made prior to demolition.

Thank you very much for your substantial effort on behalf of this important project, and for your cooperation in seeking an effective and comprehensive mitigation program. Please let us know if a letter of endorsement from the Board would help in support of the Legacy Grant application.

Sincerely,

*Helaine Kaplan Thentse*  
for  
LES HAUSRATH  
Chairperson

Attachment  
F-M276 INSCOAK.HKP

FIRST AMENDED MEMORANDUM OF AGREEMENT

AMONG

THE DEPARTMENT OF THE NAVY, THE ADVISORY COUNCIL ON  
HISTORIC PRESERVATION, THE CALIFORNIA STATE HISTORIC PRESERVATION  
OFFICER, AND THE PORT OF OAKLAND, FOR THE  
LEASING AND DISPOSAL OF THE FLEET AND INDUSTRIAL SUPPLY CENTER,  
OAKLAND, CALIFORNIA

WHEREAS, the Department of the Navy (Navy) entered into a Memorandum of Agreement (MOA) for the lease of approximately 220 acres of the Fleet and Industrial Supply Center, Oakland (FISCO), California to the Port of Oakland (Port) with the California State Historic Preservation Officer (SHPO), concurred in by the Port and accepted by the Advisory Council on Historic Preservation (Council) on December 22, 1994 in accordance with the regulations for the *Protection of Historic Properties* (36 CFR Part 800), implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f), and

WHEREAS, in 1995 FISCO was included on the list of military bases to be closed pursuant to the Base Realignment and Closure Commission recommendations and is scheduled to cease operations in 1998, thereby precluding the Navy from carrying out Stipulation 2, the preparation of a Historic and Archeological Resources Protection Plan, in the aforesaid MOA, and

WHEREAS, pursuant to the special legislation (10 U.S.C. and the Defense Authorization Act of 1993) under which approximately 200 acres of FISCO have been leased to the Port the remaining acreage is to be leased to the Port, when no longer required by the Navy, and

WHEREAS, title to most of FISCO will revert to the Port, when the Navy has no further need for the property, and the remaining 136 acres is expected to be conveyed to the Port pursuant to special legislation as soon as the Installation Restoration Program is completed (scheduled for 2004), and

WHEREAS, this First Amended Memorandum of Agreement for the leasing and disposal of the FISCO fully supersedes the previous Memorandum of Agreement for the leasing of approximately 220 acres of FISCO to the Port, accepted by the Council on December 22, 1994, and

WHEREAS, the lease of the remaining acreage at FISCO and the future conveyance of FISCO property to the Port will have an effect on the Naval Supply Center Oakland Historic District, a property eligible for inclusion in the National Register of Historic Places, the Navy has consulted with the other parties to the aforesaid MOA pursuant to 36 CFR Section 800.5(e)5;

NOW, THEREFORE, the Navy and the California SHPO, and the Council agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

FIRST AMENDED

MEMORANDUM OF AGREEMENT

Naval Supply Center Oakland Historic District  
Navy Lease and Disposal to the Port of Oakland

Stipulations

The Navy in cooperation with the Port of Oakland will ensure that the following measures are carried out:

1. The Navy has consulted the Pacific-Great Basin Systems Support Office, National Park Service, San Francisco, California to determine the level and kind of recordation required for the Naval Supply Center Oakland Historic District, the Port has completed this documentation and it has been accepted by the Historic American Buildings Survey.
2. The Navy, through the FISCO Public Affairs Officer and in coordination with the Port, will allow the continuation of guided tours of the Naval Supply Center Historic District for interested community groups upon request on such terms and conditions as the Commanding Officer of FISCO determines are compatible with the security and operation of the facility.
3. The Port will publicize tours of the Naval Supply Center Oakland Historic District and arrange for trained docents to lead the tours.
4. The Port will phase demolition of the historic buildings on the property it leases from the Navy at FISCO. Buildings will be demolished when an approved sublease for use of the land occupied by the building(s) requires its (their) removal.
5. The Navy provided the Pacific Locomotive Association, Inc., a non-profit corporation, railroad track for use on the Niles Canyon Railway, a historical railroad museum from the rail car marshaling yard of the Naval Supply Center Oakland Historic District.
6. The Port of Oakland agrees to carry out the obligations set forth in Resolution No. 96429, attached hereto as APPENDIX A, which expands the agreement set forth in the Port's letter of July 11, 1994 to the Oakland Landmarks Preservation Advisory Board and included as Exhibit 2 of the aforesaid 1994 MOA. The Navy assumes no obligation or responsibilities with respect to the provisions of APPENDIX A.
7. Should any party to this agreement object to any action carried out or proposed by the Navy with respect to the implementation of this agreement, the Navy shall consult with the objecting party to resolve the objection. If, after entering into such consultation, the Navy determines that the objection cannot be resolved through consultation directly with the objecting party, the Navy shall forward all relevant documentation to the Council, including the Navy's proposed response to the objection. The Council shall exercise one of the following options within 30 calendar days of receipt of all pertinent documentation:



FIRST AMENDED

MEMORANDUM OF AGREEMENT

Naval Supply Center Oakland Historic District  
Navy Lease and Disposal to the Port of Oakland

(a) advise the Navy in writing that the Council concurs with the Navy's proposed response and final decision, if so indicated, whereupon the Navy shall respond to the objecting party in writing; or


(b) provide the Navy with written recommendations and/or comments, which the Navy shall take into account in reaching its final decision regarding its response to the objection in accordance with 36 CFR 800.6; or

(c) notify the Navy in writing that the Council will provide written comments within a specified time frame pursuant to 36 CFR 800.6. The resulting comments shall be taken into account by the Navy in accordance with 36 CFR 800.6(c).

Should the Council fail to exercise one of the above options within 30 calendar days after receipt of all pertinent documentation, the Navy may assume the Council concurrence in the Navy's proposed response. In considering any party's comments, the Navy shall take into account any recommendation or comment with reference only to the subject of the objection. The Navy's responsibility to carry out all actions under this agreement that are not the subject of the objection shall remain unchanged and shall be executed accordingly.

Execution of this First Amended Memorandum of Agreement and implementation of its terms evidence that the Navy has afforded the Council an opportunity to comment on the leasing and disposal and their effects on historic properties, and that the Navy has taken into account the effects of the undertaking on historic properties.

DEPARTMENT OF THE NAVY

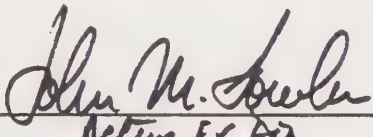
By:  Date: 3/7/97  
COMMANDING OFFICER, FISC OAKLAND  
[Name and Title of Signer]

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

By:  Date: April 11, 1997  
[Name and Title of Signer]

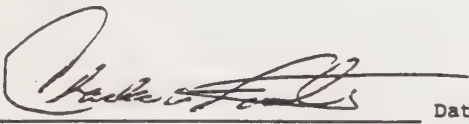

FIRST AMENDED  
MEMORANDUM OF AGREEMENT  
Naval Supply Center Oakland Historic District  
Navy Lease and Disposal to the Port of Oakland

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By:  Date: 4/30/97  
Acting E.C. Dir.  
[Name and Title of Signer]

CONCUR:

PORT OF OAKLAND

By:  Date: 3/14/97  
Charles F. Foster, Executive Director  
Approved as to legality and form:   
David Alexander  
Port Attorney Date 3/17/97

Resolution No. 96429

P.A. # 97-59

FIRST AMENDED  
MEMORANDUM OF AGREEMENT  
Naval Supply Center Oakland Historic District  
Navy Lease and Disposal to the Port of Oakland

APPENDIX

APPENDIX A -- Resolution No. 96429 Board of Port Commissioners, City  
of Oakland approved at a regular meeting held December  
17, 1996



**BOARD OF PORT COMMISSIONERS  
CITY OF OAKLAND**

---

**RESOLUTION NO. 96429**

*WJ*

**RESOLUTION APPROVING AMENDMENT TO MEMORANDUM  
OF AGREEMENT TO MITIGATE IMPACTS TO HISTORIC  
DISTRICT AT FEDERAL INDUSTRIAL SUPPLY CENTER  
OAKLAND (NAVAL SUPPLY CENTER OAKLAND).**

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**RESOLVED** that the Board of Port Commissioners hereby approves an amendment to that certain Memorandum of Agreement among the United States Department of the Navy, the California State Historical Preservation Officer, the Port and the Advisory Council on Historic Preservation, signed on behalf of the Board on November 15, 1994, which amendment modifies and expands the program to mitigate impacts to the historic district at Federal Industrial Supply Center Oakland (Naval Supply Center, Oakland), as said modified and expanded program is described in Board Agenda Sheet Item No. 23 (December 17, 1995), and authorizes the Executive Director for and on behalf of the board to execute any necessary agreements to reflect said amendment; provided, however, that all such agreements shall be approved as to form and legality by the Port Attorney.

**At a regular meeting held December 17, 1996**

**Passed by the following vote:**

**Ayes: Commissioners Cole, Harris, Kramer, Lockhart, Loh,  
Taylor and President Ortiz - 7**

**Noes: None**

**Absent: None**

# Agenda Sheet

**SUBJECT:** Amendment of Memorandum of Agreement to Mitigate Impacts to Potential Historic District at FISCO Due to Development of Vision 2000 Program

**Date:** December 17, 1996

**Item No.** \_\_\_\_\_

**PROGRAM AREA**

- ☐ Airport Operations  
☐ Commercial Real Estate  
☒ Maritime Operations  
☐ Overall Operations

**SUBMITTED BY:** Leo R. Brien

**EXECUTIVE OFFICE RECOMMENDATION:**

**FACTUAL BACKGROUND:**

On August 9, 1994, the Board of Port Commissioners passed Port Resolution 94314 which approved a Memorandum of Agreement (MOA) between the Port and the City of Oakland Landmarks Preservation Advisory Board to create a program to mitigate the unavoidable, adverse effects to the Naval Supply Center (now referred to as FISCO), which has been identified as an historic district eligible for inclusion on the National Register of Historic Places. This MOA was adopted by the U.S. Navy, the Port of Oakland, the California State Historic Preservation Officer, and the National Advisory Council on Historic Preservation as mitigation for the Port lease of 220 acres of FISCO and the demolition of structures on the FISCO property and fulfilled the review required by Section 106 of the National Historic Preservation Act (NHPA).

Pursuant to the Defense Base Closure and Realignment Act of 1995, FISCO is now scheduled for closure in September, 1998. In order for the Navy to dispose of and convey the FISCO property to the Port, there must be another NHPA, Section 106 review. Therefore the Port and the Navy wish to amend the existing MOA to recognize the disposal and conveyance of the entire FISCO property to the Port and to mitigate the unavoidable, adverse effects of the Port's redevelopment will have on the FISCO historic district.

Port staff and the staff of the City of Oakland Landmarks Preservation Advisory Board (LPAB), which acts as the advisor to the City of Oakland on matters of historic preservation and is the designated agency which acts as the local consultant for purposes of compliance with the NHPA, and in consultation with the Oakland Heritage Alliance, have negotiated and agreed upon the following amendments to the MOA. These amendments have been accepted by the LPAB at their meeting on December 9, 1996.

Port will agree to the following mitigation measures:

- To continue providing public tours of FISCO as long as practicable and safe;
- To continue to phase demolition of structures at FISCO;
- To develop, produce and disseminate a documentary video to preserve the history and significance of FISCO, to be funded by the Port in an amount not to exceed \$200,000. The Port will provide an additional amount, not to exceed \$25,000, to implement a one-time distribution and outreach program that will include the production, packaging and distribution of the video and a professional, good faith effort to pursue television or non-theatrical distribution of the video;

**BOARD ACTION REQUIRED:**

- ☐ MOTION  
☒ RESOLUTION  
☐ ORDINANCE  
☐ INFORMATION ONLY

**BOARD ACTION TAKEN**

**DATE**

**SECRETARY OF THE BOARD**



- To provide funding, not to exceed \$55,000, for the preparation of a movable exhibit commemorating FISCO and its place in Oakland history and to provide exhibition space at the Oakland Airport as part of a program in collaboration with the Oakland Museum;
- To include in the design and development of public access areas at the FISCO, a structure, land form or landscaping feature which captures the true scale of the facilities and activities required for the FISCO historic function,
- To prepare and submit an application to the State Historic Resources Commission to designate the FISCO site as a State Historical Point of Interest;
- To make the three officer quarters buildings available for relocation off-site and reuse by non-profit or other community based organizations at no charge for a period not to exceed three months prior to the demolition of the buildings. The Port will provide funding to assist with the relocation up to the amount of the Port Engineer's cost estimate to demolish the buildings. The offer will be widely advertised and made in accordance with conditions, indemnifications, releases and liability insurance to be provided in advance to the Port. The organizations receiving the building(s) are solely responsible, at no cost to the Port, to satisfy all requirements necessary to remove, transport and resite the buildings. If no viable offers that meet the Port's requirements are received within the three months, the Port may demolish the houses.

The LPAB has agreed that the preservation of a building in place at FISCO is not feasible because of critical land use and engineering restrictions. LPAB has further agreed that this mitigation program constitutes the complete and final mitigation for the unavoidable, adverse effects on the historic district through the development of the Vision 2000 Program or other redevelopment by the Port.

RECOMMENDATION:

It is recommended that the Board authorize the Executive Director to execute the above amendments to the Memorandum Of Agreement and enter into any other necessary agreements with the City of Oakland and the U.S. Navy or other parties to adopt and implement the Landmarks Preservation Advisory Board plan for a program to mitigate impacts to the potential historic district at FISCO as a result of Port redevelopment.



**FISCO/Vision 2000**



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## APPENDIX H BIOLOGICAL RESOURCES

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SPECIES STATUS NEAR THE PROJECT SITE  
LETTERS AND REPLIES CONCERNING BIOLOGICAL RESOURCES

H-1

1. LETTER DATED 2/7/94 FROM NATIONAL MARINE FISHERIES SERVICE TO US NAVY  
*comment on NOP of 1994 FISCO Leasing EIR/EIS*
  2. LETTER DATED 5/10/96 FROM US NAVY TO NATIONAL MARINE FISHERIES SERVICE  
*request for endangered species list*
  3. LETTER DATED 6/6/96 FROM NATIONAL MARINE FISHERIES SERVICE TO US NAVY  
*response to request for endangered species list*
  4. LETTER DATED 5/10/96 FROM US NAVY TO US FISH AND WILDLIFE SERVICE  
*request for endangered species list*
  5. LETTER DATED 6/27/96 FROM US FISH AND WILDLIFE SERVICE TO US NAVY  
*response to request for endangered species list*
  6. LETTER DATED 3/6/97 FROM US NAVY TO NATIONAL MARINE FISHERIES SERVICE  
*request for concurrence of no adverse effect*
  7. LETTER DATED 4/23/97 FROM NATIONAL MARINE FISHERIES SERVICE TO US NAVY  
*response to request for concurrence*
  8. LETTER DATED 3/6/97 FROM US NAVY TO US FISH AND WILDLIFE SERVICE  
*request for concurrence of no adverse effect*
  9. LETTER DATED 4/24/97 FROM US FISH AND WILDLIFE SERVICE TO US NAVY  
*response to request for concurrence*
  10. LETTER DATED 4/28/97 FROM US NAVY TO US FISH AND WILDLIFE SERVICE  
*request for initiation of Endangered Species Act Section 7 consultation*
  11. LETTER DATED 6/26/97 FROM US FISH AND WILDLIFE SERVICE TO US NAVY  
*response to request for initiation of Endangered Species Act Section 7 consultation*
  12. LETTER DATED 5/5/97 FROM LEORA FEENEY TO PORT OF OAKLAND  
*status of burrowing owl habitat at Middle Harbor Park*
  13. LETTER DATED 5/12/97 FROM ENTRIX TO PORT OF OAKLAND  
*status of eelgrass in Oakland Inner and Middle Harbors*
- 
-

# Appendix H

## Biological Resources

The table below shows federal and state species of concern observed in the general area of the FISCO/Vision 2000 project site. The table also lists threatened and endangered species and those species proposed for listing as threatened or endangered. However, it is unlikely that any threatened and endangered species are present at the project site.

Table H-1  
Species Status Near the Project Site

| Common Name<br>Scientific Name  | Federal<br>Status | State<br>Status | CNPS<br>Status |
|---|-------------------|-----------------|----------------|
| <u>Plants</u>   |                   |                 |                |
| Alkali milk-vetch<br>Astragalus tener var. tener                                | --                | SCSC            | 1B             |
| Kellogg's wedge-leaved horkelia<br>Horkelia cuneata ssp. sericea                | FSC               | --              | 1B             |
| Point Reyes (Northcoast) birds beak<br>Cordylanthus maritimus ssp.<br>palustris | FSC               | --              | 1B             |
| Adobe sanicle<br>Sanicula maritima  | FSC               | SR              | 1B             |
| San Francisco Bay spineflower<br>Chorizanthe cuspidata var.<br>cuspidata        | FC                | --              | 1B             |
| Santa Cruz tarplant<br>Holocarpha macradenia                                    | FC                | SE              | 1B             |
| <u>Invertebrates</u>  |                   |                 |                |
| San Francisco lacewing<br>Nothochrysa californica                               | FSC               | --              | --             |
| Bridges' coast range shoulderband snail<br>Helminthoglypta nickliniana          | FSC               | --              | --             |
| Ricksecker's water scavenger beetle<br>Hydrochara rickseckeri                   | FSC               | --              | --             |
| <u>Fish</u>   |                   |                 |                |
| Green sturgeon<br>Acipenser medirostris   | FSC               | --              | --             |
| Longfin smelt<br>Spirinchus thaleichthys  | FSC               | SCSC            | --             |
| Coho salmon<br>Oncorhynchus kisutch   | FPT               | SSCT            | --             |
| Delta smelt<br>Hypomesus transpacificus   | FT                | ST              | --             |



| Common Name<br>Scientific Name                                      | Federal<br>Status | State<br>Status | CNPS<br>Status |
|---|-------------------|-----------------|----------------|
| Sacramento splittail<br><i>Pogonichthys macrolepidotus</i>          | FPT               | --              | --             |
| Tidewater goby<br><i>Eucyclogobius newberryi</i>                    | FE                | SCSC            | --             |
| <u>Amphibians</u>   |                   |                 |                |
| Foothill yellow-legged frog<br><i>Rana boylei</i>                   | FSC               | SCSC            | --             |
| California red-legged frog<br><i>Rana aurora draytonii</i>          | FT                | SCSC            | --             |
| California tiger salamander<br><i>Ambystoma californiense</i>       | FC                | SCSC            | --             |
| <u>Reptiles</u>   |                   |                 |                |
| Alameda whipsnake<br><i>Masticophis lateralis euryxanthus</i>       | FPE               | ST              | --             |
| California horned lizard<br><i>Phrynosoma coronatum frontale</i>    | FSC               | SCSC            | --             |
| Northwestern pond turtle<br><i>Clemmys marmorata m.</i>             | FSC               | SCSC            | --             |
| Southwestern pond turtle<br><i>Clemmys marmorata p.</i>             | FSC               | SCSC            | --             |
| <u>Birds</u>  |                   |                 |                |
| Double crested cormorant<br><i>Phalacrocorax auritus</i>            | --                | SCSC            | --             |
| California clapper rail<br><i>Rallus longirostris obsoletus</i>     | FE                | SE              | --             |
| Western snowy plover<br><i>Charadrius alexandrinus nivosus</i>      | FT                | SE              | --             |
| California black rail<br><i>Laterallus jamaicensis coturniculus</i> | FSC               | ST              | --             |
| Alameda song sparrow<br><i>Melospiza melodia maxillaris</i>         | FSC               | SCSC            | --             |
| Bell's sage sparrow<br><i>Amphispiza belli b.</i>                   | FSC               | SCSC            | --             |
| Bald eagle<br><i>Haliaeetus leucocephalus</i>                       | FT                | SE              | --             |
| Ferruginous hawk<br><i>Buteo regalis</i>                            | FSC               | --              | --             |
| Burrowing owl<br><i>Speotytoaunicularia</i>                         | --                | SCSC            | --             |
| Little willow flycatcher<br><i>Empidonax taillii brewsteri</i>      | FSC               | --              | --             |
| Saltmarsh common yellowthroat<br><i>Geothlypis trichas sinuosa</i>  | FSC               | SCSC            | --             |
| Tricolored blackbird<br><i>Agelaius tricolor</i>                    | FSC               | SCSC            | --             |

| Common Name<br>Scientific Name   | Federal<br>Status | State<br>Status | CNPS<br>Status |
|--|-------------------|-----------------|----------------|
| <u>Mammals</u>   |                   |                 |                |
| Salt marsh harvest mouse<br><i>Reithrodontomys raviventris</i>               | FE                | SE              | --             |
| Salt marsh wandering shrew<br><i>Sorex vagrans halicoetes</i>                | FC                | SCSC            | --             |
| Alameda Island mole<br><i>Scapanus latimanus parvus</i>                      | FSC               | SCSC            | --             |
| Berkeley kangaroo rat<br><i>Diptodomys heermanni</i><br><i>berkeleyensis</i> | FSC               | --              | --             |
| Fringed myotis bat<br><i>Myotis thysanodes</i>                               | FSC               | --              | --             |
| Greater western mastiff bat<br><i>Eumops perotis californicus</i>            | FSC               | SCSC            | --             |
| Long-eared myotis bat<br><i>Myotis evotis</i>                                | FSC               | --              | --             |
| Long-legged myotis bat<br><i>Myotis volans</i>                               | FSC               | --              | --             |
| Pacific western big-eared bat<br><i>Plecotus townsendii townsendii</i>       | FSC               | --              | --             |
| San Francisco dusky-footed woodrat<br><i>Neotoma fuscipes annectens</i>      | FSC               | SCSC            | --             |
| Yuma myotis bat<br><i>Myotis yumanensis</i>                                  | FSC               | --              | --             |

Source: California Department of Fish and Game 1995; Skinner and Pavlik 1994; US Fish and Wildlife Service 1996

| <u>Federal Status</u> |  | <u>State Status</u> | <u>California Native Plant Society<br/>(CNPS) Status</u> |   |
|-----------------------|--|---------------------|--|---|
| FE                    | = Endangered                             | SE                  | = Endangered   | List 1A = Presumed extinct in California                  |
| FT                    | = Threatened                             | ST                  | = Threatened   |   |
| FC                    | = Candidate (formerly C1)                | SR                  | = Rare   |   |
| FPE                   | = Proposed endangered                    | SCSC                | = California species of special concern                  |   |
| FPT                   | = Proposed threatened                    | CEQA                | = Protected under CEQA                                   | List 1B = Rare and endangered in California and elsewhere |
| FSC                   | = Species of concern (formerly C2)       | SSCT                | = Candidate for listing as threatened                    |   |
| FSCR                  | = Species of concern recommended listing |                     |  | List 3 = Need more information - a review list            |
|                       |  |                     |  | List 4 = Limited distribution - a watch list              |

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UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE

Southwest Region  
Habitat Conservation Division  
777 Sonoma Avenue, Room 325  
Santa Rosa, California 95404

February 7, 1994

F/SW022:DBM

Mr. Raymond Chiang  
Environmental Engineer  
Environmental Planning Branch  
Western Division Naval Facilities Engineering Command  
P.O. Box 727  
San Bruno, California 94066

Dear Mr. Chiang:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) of an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Commercial Uses of a Portion of Naval Supply Center Oakland. The following comments are meant to assist you in the completion of the EIR/EIS.

The National Marine Fisheries Service is responsible for preserving and enhancing marine, estuarine, and anadromous fish resources and the habitats that support these resources. The EIR/EIS should fully address any impacts associated with these resources.

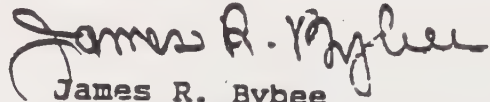
We recommend that the EIR/EIS fully describe all dredge and fill activities, documenting the volumes of material and the size of particular areas to be modified or impacted. The requirements of a long-term future maintenance dredging and disposal plan must be addressed in addition to new dredging proposed for the redevelopment project. Upland disposal of dredged material is preferred.

Upland activities planned for redeveloping the port facilities should be described, especially those that contribute to water quality problems of the bay. For example, a stormwater management plan should be described indicating runoff management with oil and grease traps before entry into the bay, or to a sewer system if appropriate.

If any redevelopment activities require fill in water areas or requires shore realignments, rip-rap, or bulkheads, these items will also need justification and an alternatives analysis.

If you have questions concerning these comments or wish to discuss the project further, please contact Mr. Dante Maragni of my staff at: National Marine Fisheries Service, Southwest Region, Habitat Conservation Division, 777 Sonoma Avenue, Room 325, Santa Rosa, California 95404; telephone 707-578-7513.

Sincerely,

A handwritten signature in dark ink, appearing to read "James R. Bybee". The signature is fluid and cursive, with the first name "James" being the most prominent.

James R. Bybee  
Environmental Coordinator  
Northern Area

cc: Port of Oakland, C. Schwarz



DEPARTMENT OF THE NAVY

ENGINEERING FIELD ACTIVITY, WEST  
NAVAL FACILITIES ENGINEERING COMMAND  
800 COMMODORE DRIVE  
SAN BRUNO, CALIFORNIA 94066-5006

IN REPLY REFER TO:

5090.1B  
185NR/EP-970  
10 May 1996

Mr. James Bybee  
National Marine Fisheries Service  
777 Sonoma Ave. Rm 325  
Santa Rosa, CA 95404

Dear Mr. Bybee:

We request a list of federally listed threatened and endangered species potentially occurring at the Naval and Fleet Industrial Supply Center, Oakland (FISCO), California. FISCO has been identified for closure pursuant to the Defense Base Closure and Realignment Act of 1990 (P.L. 101-510).

Current schedule for operational closure in September 1998. The Port of Oakland will generate a reuse plan identifying the future land use of the facility. Reuse is expected to focus on the development of a joint intermodal terminal, expansion of marine freight handling terminals, development of a public access, and habitat mitigation areas. The anticipated issues of concern regarding the reuse by the Port of Oakland include: transportation, circulation, and traffic impacts including railroad, truck and automobile; geologic and hydrologic conditions affecting reuse; cultural resources; air quality; hazardous materials and hazardous waste; and cumulative effects of waterfront activities.

FISCO is located on approximately 541 acres on the eastern side of San Francisco Bay, south of the San Francisco-Oakland Bay Bridge, within the City of Oakland. The facility consist of four types of operations: general supply operations, waterfront operations, administration, and miscellaneous tenant operations. In 1995, the Port of Oakland began a 50 year lease of 220 acres of FISCO to support their intermodal rail facilities and maritime-cargo related uses.

Please provide the species list within 30 days of receipt of this letter. If you have other environmental concerns which may affect the closure or reuse of the facility, we would appreciate receiving those concerns at this time.

For additional information our point-of-contact is Mr. Gary Munekawa, Attention: Code 185GM (telephone 415-244-3022), at the letterhead address.

Sincerely,

*Douglas R. Pomeroy*  
Douglas R. Pomeroy

Biology/Base Closure Section

Encls.



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**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE

Southwest Region  
777 Sonoma Ave. Rm 325  
Santa Rosa, CA 95404

June 6, 1996 F/SW031:PR

Mr. Douglas R. Pomeroy  
Biology/Base Closure Section  
Department of the Navy  
Engineering Field Activity, West  
Naval Facilities Engineering Command  
900 Commodore Drive  
San Bruno, California 94066-5006

Dear Mr. Pomeroy:

This letter is in response to your request of May 10, 1996 regarding the presence of Federally listed threatened or endangered species or critical habitat that may be affected by the proposed closure and reuse of the Naval and Fleet Industrial Supply Center (FISCO) in Oakland, California.

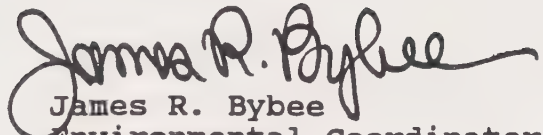
Available information indicates that the Federally listed endangered Sacramento River winter-run chinook salmon may occur at the project site. No critical habitat occurs at the proposed project site. No other listed species under the jurisdiction of the National Marine Fisheries Service occur in the project area. Your letter also requested identification of other environmental concerns which may affect the closure or reuse of the base facility. My letter of February 7, 1994 to Mr. Raymond Chiang regarding the Notice of Preparation identified environmental concerns with maintenance dredging and disposal, in-water fill or rip-rap placement, and water quality impacts from stormwater runoff. I have attached a copy of this letter for your reference.

The U.S. Fish and Wildlife Service (USFWS) may have listed species or critical habitat under its jurisdiction in the project area. Please contact Mr. Joel Medlin, Field Supervisor, USFWS, at 2800 Cottage Way, Room E-1803, Sacramento, California 95925, or (916) 979-2710, regarding the presence of listed species or critical habitat under USFWS jurisdiction that may be affected by your project.

My staff is available to review the EIR/EIS when it becomes available. If you have questions concerning these comments, please contact Ms. Penny Ruvelas of my staff at (707) 575-6062.



Sincerely,

A handwritten signature in dark ink, appearing to read "James R. Bybee". The signature is fluid and cursive, with a large initial "J" and a long, sweeping underline.

James R. Bybee  
Environmental Coordinator  
Northern Area

cc: Craig Wingert, NMFS  
Deborah McKee, DFG





# DEPARTMENT OF THE NAVY

ENGINEERING FIELD ACTIVITY, WEST  
NAVAL FACILITIES ENGINEERING COMMAND  
900 COMMODORE DRIVE  
SAN BRUNO, CALIFORNIA 94066-5006

IN REPLY REFER TO:

5090.1B  
185NR/EP-969  
10 May 1996

Mr. Joel Medlin  
U.S. Fish and Wildlife Service  
Sacramento Field Office  
2800 Cottage Way, Room E-1803  
Sacramento, CA 95825-1846

Dear Mr. Medlin:

We request a list of federally listed threatened and endangered species potentially occurring at Fleet and Industrial Supply Center Oakland, (FISCO) California. FISCO has been identified for closure pursuant to the Defense Base Closure and Realignment Act of 1990 (P.L. 101-510).

Current schedule for operational closure is September 1998. The Port of Oakland will generate a reuse plan identifying the future land use of the facility. Reuse is expected to focus on the development of a joint intermodal terminal, expansion of marine freight handling terminals, development of a public access, and habitat mitigation areas.

The facility is located on the eastern shore of San Francisco Bay, just south of the San Francisco-Oakland Bay Bridge and adjacent to the Port of Oakland. The facility is intensely developed and was constructed in 1940 on 541 acres of former marsh and submerged tideland. The facility is divided into six land use areas: administration/personnel support area, central supply area, waterfront area, residential area, tenant area, and Port of Oakland leased area (a map of the facility is enclosed).

Please provide this list within 30 days of receipt of this letter. If you have other concerns which may affect the closure or reuse of this facility pursuant to the Base Realignment and Closure process, we would appreciate receiving those concerns at this time.

For additional information our point-of-contact is Mr. Gary Munekawa, Attention: Code 185GM (telephone 415-244-3022), at the letterhead address.

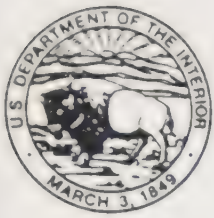
Sincerely,

*Douglas R. Pomeroy*

Douglas R. Pomeroy  
Biology/Base Closure Section

Encls.

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# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
Sacramento Field Office  
2800 Cottage Way, Room E-1803  
Sacramento, California 95825

IN REPLY REFER TO:

1-1-96-SP-986

June 27, 1996

Mr. Douglas R. Pomeroy, Biology/Base Closure Section  
Attn: Mr. Gary Munekawa, Code 185GM  
Department of the Navy, Engineering Field Activity, West  
Naval Facilities Engineering Command  
900 Commodore Drive  
San Bruno, California 94066-5006

Subject: Species Lists for the Fleet and Industrial Supply Center  
Oakland, Alameda County, California

Dear Mr. Pomeroy:

As requested by letter from your agency dated May 10, 1996, you will find enclosed lists of sensitive species that may be present in or *may be affected* by projects in the subject project area (see Enclosures A and B). These lists fulfill the requirement of the Fish and Wildlife Service (Service) to provide species lists pursuant to section 7(c) of the Endangered Species Act of 1973, as amended (Act).

The Service used your map(s) and/or other information to locate the proposed project on an U.S. Geological Survey (USGS) 7.5 minute quadrangle map(s)(Quads). The animal species listed in Enclosure A are those species we believe may occur within, *or be affected by projects within*, the USGS Quad 466D, where your project is planned.

The plants listed in Enclosure A are those *that have actually been observed* in the project Quad(s). Enclosure B is a list of sensitive plants that have been observed in *surrounding Quads*. These plants may also occur in the Quad(s) where your project is planned.

Some of the species listed in Enclosures A and B may not be affected by the proposed action. A trained biologist or botanist, familiar with the habitat requirements of the listed species, should determine whether these species or habitats suitable for these species may be affected by the proposed action.

Some pertinent information concerning the distribution, life history, habitat requirements, and published references for the listed species is available upon request. This information may be helpful in preparing the biological assessment for this project, if one is required. Please see Enclosure C for a discussion of the responsibilities Federal agencies have under section 7(c) of the Act and the conditions under which a biological assessment must be prepared by the lead Federal agency or its designated non-Federal representative.

Formal consultation, pursuant to 50 CFR § 402.14, should be initiated if you determine that a listed species may be affected by the proposed project. If you determine that a proposed species may be adversely affected, you should consider requesting a conference with our office pursuant to 50 CFR § 402.10. Informal consultation may be utilized prior to a written request for formal



consultation to exchange information and resolve conflicts with respect to a listed species. If a biological assessment is required, and it is not initiated within 90 days of your receipt of this letter, you should informally verify the accuracy of this list with our office.

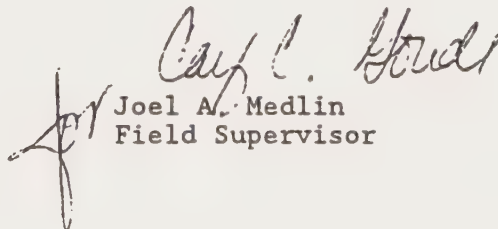
Candidate species are currently being reviewed by the Service and are under consideration for possible listing as endangered or threatened. Candidate species have no protection under the Endangered Species Act, but are included for your consideration as it is possible that one or more of these candidates could be proposed and listed before the subject project is completed. Should the biological assessment reveal that candidate species may be adversely affected, you may wish to contact our office for technical assistance. One of the potential benefits from such technical assistance is that by exploring alternatives early in the planning process, it may be possible to avoid conflicts that could otherwise develop, should a candidate species become listed before the project is completed.

The Service recently changed its policy on candidate species. The term *candidate* now strictly refers to species for which the Service has on file enough information to propose listing as endangered or threatened. Former *candidate category 2* species - species for which listing is possibly appropriate but for which the Service lacks sufficient information to support a listing proposal - are now called *species of concern*. They are no longer monitored by the Service. However we have retained them on the enclosed list for general information. We encourage consideration of them in project planning, as they may become candidate species in the future.

If the proposed project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by the U.S. Army Corps of Engineers (Corps), a Corps permit shall be required, pursuant to section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act. Impacts to wetland habitats require site specific mitigation and monitoring. You may request a copy of the Service's General Mitigation and Monitoring Guidelines or submit a detailed description of the proposed impacts for specific comments and recommendations.

Please contact Mr. Michael Thabault at (916) 979-2725 if you have any questions regarding the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of the section 7 office assistant at this address. If you have any questions regarding wetlands, contact Mr. Mark Littlefield at (916) 979-2113.

Sincerely,

  
Joel A. Medlin  
Field Supervisor

Enclosures

Federally Listed and Other Sensitive Species that May Occur in or be Affected  
by Projects in the Area of the Following Selected Quads

File Reference 1-1-96-SP-986  
June 12, 1996

466D OAKLAND WEST

LISTED SPECIES

Mammals

salt marsh harvest mouse, *Reithrodontomys raviventris*(E)

Birds

American peregrine falcon, *Falco peregrinus anatum*(E)  
California brown pelican, *Pelecanus occidentalis californicus*(E)  
California clapper rail, *Rallus longirostris obsoletus*(E)  
California least tern, *Sterna antillarum (-albifrons) browni*(E)  
bald eagle, *Haliaeetus leucocephalus*(T)  
western snowy plover, *Charadrius alexandrinus nivosus*(T)

Amphibians

California red-legged frog, *Rana aurora draytonii*(T)

Fish

delta smelt, *Hypomesus transpacificus*(T)  
tidewater goby, *Eucyclogobius newberryi*(E)  
winter-run chinook salmon, *Oncorhynchus tshawytscha*(E)  
winter-run chinook salmon crit. habitat, *Oncorhynchus tshawytscha*(E)

PROPOSED SPECIES

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus*(PE)

Fish

Coho salmon, *Oncorhynchus kisutch*(PT)  
Sacramento splittail, *Pogonichthys macrolepidotus*(PT)

CANDIDATE SPECIES

Amphibians

California tiger salamander, *Ambystoma californiense*(C)

Plants

Santa Cruz tarweed, *Holocarpha macradenia*(C)

SPECIES OF CONCERN

Mammals

Alameda Island mole, *Scapanus latimanus parvus*(SC)  
Berkeley kangaroo rat, *Dipodomys heermanni berkleyensis*(SC)  
Pacific western big-eared bat, *Plecotus townsendii townsendii*(SC)  
San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens*(SC)  
Yuma myotis bat, *Myotis yumanensis*(SC)  
fringed myotis bat, *Myotis thysanodes*(SC)

Federally Listed and Other Sensitive Species that May Occur in or be Affected  
by Projects in the Area of the Following Selected Quads

File Reference 1-1-96-SP-986  
June 12, 1996

**Mammals, continued**

greater western mastiff-bat, *Eumops perotis californicus*(SC)  
long-eared myotis bat, *Myotis evotis*(SC)  
long-legged myotis bat, *Myotis volans*(SC)  
salt marsh vagrant shrew, *Sorex vagrans halicoetes*(SC)

**Birds**

Alameda (South Bay) song sparrow, *Melospiza melodia maxillaris*(SC)  
Bell's sage sparrow, *Amphispiza belli belli*(SC)  
black rail, *Laterallus jamaicensis*(SC)  
ferruginous hawk, *Buteo regalis*(SC)  
little willow flycatcher, *Empidonax traillii brewsteri*(SC)  
saltmarsh common yellowthroat, *Geothlypis trichas sinuosa*(SC)  
tricolored blackbird, *Agelaius tricolor*(SC)

**Reptiles**

California horned lizard, *Phrynosoma coronatum frontale*(SC)  
northwestern pond turtle, *Clemmys marmorata marmorata*(SC)  
southwestern pond turtle, *Clemmys marmorata pallida*(SC)

**Amphibians**

foothill yellow-legged frog, *Rana boylei*(SC)

**Invertebrates**

Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi*(SC)  
Ricksecker's water scavenger beetle, *Hydrochara rickseckeri*(SC)  
San Francisco lacewing, *Nothochrysa californica*(SC)

**Plants**

Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata ssp. sericea*(SC)  
San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata*(SC)  
adobe sanicle, *Sanicula maritima*(SC)  
alkali milk-vetch, *Astragalus tener var. tener*(SC)  
northcoast bird's-beak, *Cordylanthus maritimus ssp. palustris*(SC)

|  |   |
|--|---|
| (E)--Endangered                        | Species that is in danger of extinction throughout all or a significant portion of its range  |
| (T)--Threatened                        | Species that is likely to become endangered within the foreseeable future   |
| (P)--Proposed                          | Species that has been proposed in the <i>Federal Register</i> to be listed as endangered or threatened  |
| (CH)--Critical Habitat                 | Area essential to the conservation of a species   |
| (C)--Candidate:                        | Species for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened               |
| (SC)--Species of Concern:              | Species for which existing information indicated may warrant listing, but for which substantial biological information to support a proposed rule is lacking. |
| (CR)--Recommended for Candidate Status |   |
| ( )--Listing petitioned.               |   |



Sensitive Plant Species That May Occur in the Quads Surrounding  
Quad 466D, California

File Reference 1-1-96-SP-986  
June 12, 1996

LISTED SPECIES

California sea blite, *Suaeda californica*(E)  
Marin dwarf-flax, *Hesperolinon congestum*(T)  
Presidio clarkia, *Clarkia franciscana*(E)  
Presidio manzanita, *Arctostaphylos hookeri* ssp. *ravenii*(E)  
Presidio manzanita, *Arctostaphylos hookeri* ssp. *ravenii*(E)  
Tiburon jewelflower, *Streptanthus niger*(E)  
Tiburon mariposa lily, *Calochortus tiburonensis*(T)  
Tiburon paintbrush, *Castilleja affinis* ssp. *neglecta*(E)  
beach layia, *Layia carnosa*(E)  
marsh sandwort, *Arenaria paludicola*(E)  
robust spineflower, *Chorizanthe robusta*(E)  
white-rayed pentachaeta, *Pentachaeta bellidiflora*(E)

PROPOSED SPECIES

San Bruno Mountain manzanita, *Arctostaphylos imbricata*(PT)  
San Francisco lessingia, *Lessingia germanorum*(PE)  
pallid manzanita (Alameda manzanita), *Arctostaphylos pallida*(PT)  
showy Indian clover, *Trifolium amoenum*(PE)

CANDIDATE SPECIES

Santa Cruz tarweed, *Holocarpha macradenia*(C)

SPECIES OF CONCERN

Diablo rock-rose, *Helianthella castanea*(SC)  
Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata* ssp. *sericea*(SC)  
Marin checkermallow, *Sidalcea hickmanii* ssp. *viridis*(SC)  
Mission Delores campion, *Silene verecunda* ssp. *verecunda*(SC)  
Montara manzanita, *Arctostaphylos montaraensis*(SC)  
San Francisco Bay spineflower, *Chorizanthe cuspidata* var. *cuspidata*(SC)  
San Francisco gumplant, *Grindelia hirsutula* var. *maritima*(SC)  
San Francisco manzanita, *Arctostaphylos hookeri* ssp. *franciscana*(SC)  
San Francisco owl's-clover, *Triphysaria floribunda*(SC)  
San Francisco popcornflower, *Plagiobothrys diffusus*(SC)  
Tiburon tarweed, *Hemizonia multicaulis* ssp. *vernalis*(SC)  
adobe sanicle, *Sanicula maritima*(SC)  
alkali milk-vetch, *Astragalus tener* var. *tener*(SC)  
compact cobweb thistle, *Cirsium occidentale* var. *compactum*(SC)  
delta tule-pea, *Lathyrus jepsonii* var. *jepsonii*(SC)  
fragrant fritillary, *Fritillaria liliacea*(SC)  
most beautiful (uncommon) jewelflower, *Streptanthus albidus* ssp. *peramoenus*(SC)  
northcoast bird's-beak, *Cordylanthus maritimus* ssp. *palustris*(SC)  
pappose spikeweed, *Hemizonia parryi* ssp. *congdonii*(SC)

Sensitive Plant Species That May Occur in the Quads Surrounding  
Quad 466D, California

File Reference 1-1-96-SP-986  
June 12, 1996

- |                                       |   |
|---------------------------------------|---|
| (E)—Endangered                        | Species that is in danger of extinction throughout all or a significant portion of its range  |
| (T)—Threatened                        | Species that is likely to become endangered within the foreseeable future   |
| (P)—Proposed                          | Species that has been proposed in the <i>Federal Register</i> to be listed as endangered or threatened  |
| (CH)—Critical Habitat                 | Area essential to the conservation of a species   |
| (C)—Candidate:                        | Species for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened               |
| (SC)—Species of Concern:              | Species for which existing information indicated may warrant listing, but for which substantial biological information to support a proposed rule is lacking. |
| (CR)—Recommended for Candidate Status |   |
| ( )—Listing petitioned.               |   |

## Enclosure C

### FEDERAL AGENCIES' RESPONSIBILITIES UNDER SECTIONS 7(a) and (c) OF THE ENDANGERED SPECIES ACT

#### SECTION 7(a) Consultation/Conference

Requires: (1) federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species; (2) Consultation with FWS when a federal action may affect a listed endangered or threatened species to insure that any action authorized, funded, or carried out by a federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The process is initiated by the federal agency after determining the action may affect a listed species; and (3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat.

#### SECTION 7(c) Biological Assessment-Major Construction Activity<sup>1</sup>

Requires federal agencies or their designees to prepare a Biological Assessment (BA) for major construction activities. The BA analyzes the effects of the action<sup>2</sup> on listed and proposed species. The process begins with a Federal agency requesting from FWS a list of proposed and listed threatened and endangered species. The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the list, the accuracy of the species list should be informally verified with our Service. No irreversible commitments of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may proceed; however, no construction may begin.

We recommend the following for inclusion in the BA: an on-site inspection of the area affected by the proposal which may include a detailed survey of the area to determine if the species or suitable habitat are present; a review of literature and scientific data to determine species' distribution, habitat needs, and other biological requirement; interviews with experts, including those within FWS, State conservation departments, universities and others who may have data not yet published in scientific literature; an analysis of the effects of the proposal on the species in terms of individuals and populations, including consideration of indirect effects of the proposal on the species and its habitat; an analysis of alternative actions considered. The BA should document the results, including a discussion of study methods used, and problems encountered, and other relevant information. The BA should conclude whether or not a listed or proposed species will be affected. Upon completion, the BA should be forwarded to our office.

---

<sup>1</sup>A construction project (or other undertaking having similar physical impacts) which is a major federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332(2)(C)).

<sup>2</sup>"Effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action.



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5090.1B  
1852/EP7-1234  
6 March 1997

Mr. James Bybee  
National Marine Fisheries Service  
777 Sonoma Ave, Room 325  
Santa Rosa, CA 95404

Dear Mr. Bybee:

We are currently distributing the joint Draft Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) for the Disposal and Reuse of the Navy Fleet and Industrial Supply Center, Oakland (FISCO), California for your review and comment. We have enclosed an additional copy of the EIS document for your review to meet the interagency consultation requirements of the Endangered Species Act, Section 7. This is a joint EIS/EIR document supporting the Navy property disposal and subsequent Port of Oakland reuse of FISCO. Pursuant to the Defense Base Closure and Realignment Act of 1990, Public Law 101-510 Title XXIX, and the specific base closure decisions approved by Congress in September 1995, the Navy Fleet and Industrial Supply Center is scheduled for closure in September 1998.

FISCO is a heavily urbanized industrial port area. The presence and status of endangered and threatened species on and adjacent to FISCO is described in Chapter 3 of the EIS/EIR, the Environmental Consequences of the Navy action of the FISCO property disposal is described in Chapter 4, and the Environmental Consequences of Port of Oakland reuse are described in Chapter 5. To expedite this consultation, we request consultation only on the Navy Disposal alternative, and the Port of Oakland Reduced Harbor Fill reuse alternative at this time.

We request your written concurrence with our determination provided the mitigation measures as identified in the draft EIS/EIR are implemented as described that the Navy property disposal and subsequent community reuse of FISCO will have no adverse affect on any federally threatened or endangered species under your cognizance. As noted in the draft EIS/EIR, site specific Port dredging and in-water construction activities may require further coordination with your office and the Army Corps of Engineers.

We request you respond by April 22, 1997, so that your concurrence is received by the end of the draft EIS/EIR comment period. Thank you for your assistance on this Navy project. For additional information on the Draft EIS/EIR our point of contact is: Mr. Gary Munekawa at the address shown above, telephone 415-244-3022. I may be reached at 415-244-3008 regarding the Endangered Species Act, Section 7, consultation.

Sincerely,

Douglas R. Pomeroy  
Group Leader, Base Conversion/Biology Section  
Environmental Planning Branch

copy to: Port of Oakland (Loretta Meyer)

Enclosure





UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Region  
501 West Ocean Boulevard, Suite 4200  
Long Beach, California 90802-4213  
TEL (310) 980-4000; FAX (310) 980-4018

APR 23 1997

Mr. Douglas R. Pomeroy  
Group Leader, Base Conversion/Biology Section  
Environmental Planning Branch  
Department of the Navy  
Engineering Field Activity, West  
Naval Facilities Engineering Command  
900 Commodore Drive  
San Bruno, California 94066-2402

Dear Mr. Pomeroy:

Thank you for your March 6, 1997, letter requesting concurrence with your determination that Navy disposal and subsequent Port of Oakland reuse of the Navy Fleet and Industrial Supply Center, Oakland will have no adverse effect on any federally threatened or endangered species under National Marine Fisheries Service jurisdiction. At this time, your letter only requests consultation on two alternatives described in the current Draft Environmental Impact Statement for the project: The Navy Disposal Alternative, and the Port of Oakland Reduced Harbor Fill Alternative.

Based on the project description and measures which have been incorporated to protect aquatic resources, I concur with your determination that the winter-run chinook salmon, the proposed-endangered Central Valley steelhead, and the proposed-endangered Central Coast steelhead are not likely to be adversely affected by either the Navy Disposal or Reduced Harbor Fill alternatives.

This concludes section 7 consultation for the endangered winter-run chinook salmon, and conferencing for the proposed-endangered Central Valley and Central Coast steelhead evolutionarily significant units. Although conferencing for steelhead does not take the place of a section 7 consultation, no further consultation should be necessary in the event of a steelhead listing, provided that the project is implemented as described in the March 1997 Draft Environmental Impact Statement. Should project plans change, or if additional information on the proposed species becomes available, this determination may be reconsidered.



If you have any questions please contact Mr. Chris Mobley of my staff at (707) 575-6056; e-mail Chris.Mobley@noaa.gov.

Sincerely,

A handwritten signature in dark ink, appearing to read "W. Hogarth", written in a cursive style.

William T. Hogarth, Ph.D.  
Acting Regional Administrator

cc: J. Medlin, FWS  
J. Turner, DFG  
C. Morris, EPA

5090.1B  
1852/EP7-1235  
6 March 1997

Mr. Joel Medlin  
U.S. Fish and Wildlife Service - Sacramento Field Office  
3310 El Camino Avenue, Suite 130  
Sacramento, CA 95825

Dear Mr. Medlin:

We are currently distributing the joint Draft Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) for the Disposal and Reuse of the Navy Fleet and Industrial Supply Center, Oakland (FISCO), California for your review and comment. We have enclosed an additional copy of the EIS document for your review to meet the interagency consultation requirements of the Endangered Species Act, Section 7. This is a joint EIS/EIR document supporting the Navy property disposal and subsequent Port of Oakland reuse of FISCO. Pursuant to the Defense Base Closure and Realignment Act of 1990, Public Law 101-510 Title XXIX, and the specific base closure decisions approved by Congress in September 1995, the Navy Fleet and Industrial Supply Center is scheduled for closure in September 1998.

FISCO is a heavily urbanized industrial port area. The presence and status of endangered and threatened species on and adjacent to FISCO is described in Chapter 3 of the EIS/EIR, the Environmental Consequences of the Navy action of the FISCO property disposal is described in Chapter 4, and the Environmental Consequences of Port of Oakland reuse are described in Chapter 5. To expedite this consultation, we request consultation only on the Navy Disposal alternative, and the Port of Oakland Reduced Harbor Fill reuse alternative at this time. This is consistent with your previous request that we consult on a minimum number of alternatives to expedite your review.

We request your written concurrence with our determination provided the mitigation measures as identified in the draft EIS/EIR are implemented as described that the Navy property disposal and subsequent community reuse of FISCO will have no adverse affect on any federally threatened or endangered species under your cognizance. As noted in the draft EIS/EIR, site specific Port dredging and in-water construction activities may require further coordination with your office and the Army Corps of Engineers.

We request you respond by April 22, 1997, so that your concurrence is received by the end of the draft EIS/EIR comment period. Thank you for your assistance on this Navy project. For additional information on the Draft EIS/EIR our point of contact is: Mr. Gary Munekawa at the address shown above, telephone 415-244-3022. I may be reached at 415-244-3008 regarding the Endangered Species Act, Section 7, consultation.



Sincerely,

Douglas R. Pomeroy  
Group Leader, Base Conversion/Biology Section  
Environmental Planning Branch

copy to: Port of Oakland (Loretta Meyer)

Enclosure



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

IN REPLY REFER TO:

Ecological Services  
Sacramento Field Office  
3310 El Camino Avenue, Suite 130  
Sacramento, California 95821-6340

1-1-97-I-1125

April 24, 1997

Mr. Douglas R. Pomeroy  
Environmental Planning Branch  
Department of the Navy  
Engineering Field Activity, West  
Naval Facilities Engineering Command  
900 Commodore Drive  
San Bruno, CA 94066-5006

Subject: Draft Environmental Impact Statement/Environmental Impact  
Report for the Disposal and Reuse of the U.S. Navy's Fleet and  
Industrial Supply Center, Oakland, County of Alameda,  
California

Dear Mr. Pomeroy:

The U.S. Fish and Wildlife Service (Service) has reviewed the Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS) for the Disposal and Reuse of the U.S. Navy's Fleet and Industrial Supply Center, Oakland (FISCO) in Alameda County, California. In your transmittal letter, you requested our concurrence with your determination that the proposed Navy property disposal, and subsequent community reuse of FISCO by the Port of Oakland under the Reduced Harbor Fill reuse alternative, would not adversely affect any federally listed species. Based upon our review of the Draft EIS, we cannot concur with your determination for the proposed action.

The Draft EIS states that a detailed analysis of impacts to the endangered California least tern would be conducted in the future by the Port of Oakland and mitigation measures developed to compensate for identified impacts. The Draft EIS confines this analysis, and development of possible mitigation measures, to those impacts associated with increased turbidity and in-water construction activity during the least tern nesting season resulting from the proposed action. However, the Service is concerned about a number of other potential adverse effects to least terns from the proposed disposal and reuse of FISCO. These include, but are not limited to: (1) permanent and temporary loss or degradation of least tern foraging habitat, (2) predation threats on the nesting colony site at Naval Air Station Alameda and in existing and created foraging areas in the FISCO area, (3) human disturbance from public access provided under the reuse plan in areas proposed to be created as least tern foraging or roosting areas, and (4) increased contaminant loading from development runoff associated with increased facilities constructed and operated under the reuse plan. Finally, we are concerned that selection of a particular reuse alternative in the Record of Decision for the Final Environmental Impact Statement/Environmental Impact Report could preclude

opportunities to avoid or minimize potential adverse effects to least terns identified in a detailed impacts analysis.

Presently, the Service is working closely with representatives from the Port of Oakland to design adequate studies to determine the full array and extent of potential adverse effects to least terns from implementation of reuse alternatives identified in the Draft EIS. However, until these studies are completed, and we can analyze the results to determine reuse modifications and/or mitigation measures necessary to conserve least terns, it is premature and imprudent for us to concur with your determination that the proposed action is not likely to adversely affect the California least tern. However, to facilitate the environmental review process for FISCO, we request that the Navy initiate a programmatic section 7 formal consultation under requirements of the Endangered Species Act of 1973, as amended. In this programmatic consultation, we envision that we would consult on the FISCO property disposal by the Navy and all community reuse alternatives. The programmatic consultation would address information needs, timelines, and processes for subsequent section 7 consultations. Should impact analysis studies being designed and implemented by the Port of Oakland identify potential adverse effects to any federally listed or proposed species with selection of a preferred reuse alternative, then either the Navy could reinstitute formal consultation or a new consultation could be initiated by another Federal lead agency. The Service would not be precluded from determining in any future formal consultation that the preferred alternative would not ensure conservation of any federally listed or proposed species.

If you have any questions, please contact Jim Browning at (916) 979-2739 (Ext. 439).

Sincerely,



*for* Wayne S. White  
Field Supervisor  
U.S. Department of the  
Interior Coordinator

cc: Reg. Dir., (ARD-ES), Portland, OR  
SFBNWR, Project Leader, Newark, CA (M. Kolar)  
Dir., CDFG, Sacramento, CA  
Port of Oakland, Oakland, CA (J. Amdur/J. Zaitlin)  
L. Feeney, Alameda, CA





DEPARTMENT OF THE NAVY

ENGINEERING FIELD ACTIVITY, WEST  
NAVAL FACILITIES ENGINEERING COMMAND  
900 COMMODORE DRIVE  
SAN BRUNO, CALIFORNIA 94066-2402

IN REPLY REFER TO:

5090.1B  
1852DP/P7-1267  
28 April 1997

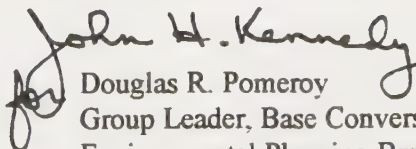
Mr. Wayne White  
Field Supervisor  
U.S. Fish and Wildlife Service  
Ecological Services  
3310 El Camino Avenue - Suite 130  
Sacramento, CA 95821-6340

Dear Mr. White:

We are writing in regard to the Draft Environmental Impact Statement/Environmental Impact Report for the Disposal and Reuse the Fleet and Industrial Supply Center, Oakland, and Port of Oakland Vision 2000 Maritime Development. As described in your letter of 24 April 1997, you do not concur with our determination of no adverse affect regarding the potential impacts the disposal and reuse of this property on endangered and threatened species. We therefore request an Endangered Species Act, Section 7, consultation be initiated at this time using the existing information in the Draft Environmental Impact Statement/Environmental Impact Report, as the Biological Assessment for this consultation. We request that you complete this consultation as quickly as possible as we plan to issue a Final Environmental Impact Statement/Environmental Impact Report by July 1997, and issue a Record of Decision in August 1997.

Thank you for your prompt assistance. For further information contact our environmental project manager Mr. Gary MuneKawa, 415-244-3022, or myself at 415-244-3008.

Sincerely,

  
for Douglas R. Pomeroy

Group Leader, Base Conversion/Biology Section  
Environmental Planning Branch

Copy to:

Port of Oakland (Loretta Meyer)  
Tetra Tech (Terry Witherspoon)

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# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

### Ecological Services

#### Sacramento Field Office

3310 El Camino Avenue, Suite 130  
Sacramento, California 95821-6340

IN REPLY REFER TO:

1-1-97-F-85

June 26, 1997

Mr. Douglas R. Pomeroy  
Environmental Planning Branch  
Department of the Navy  
Engineering Field Activity, West  
Naval Facilities Engineering Command  
900 Commodore Drive  
San Bruno, CA 94066-5006

Subject: Endangered Species Formal Consultation on the Proposed Disposal and Reuse of the U.S. Navy's Fleet and Industrial Supply Center, Oakland, County of Alameda, California

Dear Mr. Pomeroy:

This document provides a programmatic formal consultation pursuant to section 7 of the Endangered Species Act of 1973, as amended (Act), for a proposal by the U.S. Department of the Navy (Navy), for disposal of Navy property and reuse by the Port of Oakland (Port) of the Fleet and Industrial Supply Center, Oakland (FISCO), California. This is in response to your request for formal consultation on the proposed action, which was received by the U.S. Fish and Wildlife Service (Service) on April 30, 1997. This document includes the Service's biological opinion on the effects of that proposed action on the endangered California least tern (*Sterna antillarum* (=albifrons) browni). The Service has determined that the proposed action is not likely to adversely affect the endangered California brown pelican (*Pelecanus occidentalis californicus*).

This biological opinion is based on the (1) Draft Environmental Impact Statement/Environmental Impact Report for the Disposal and Reuse of Fleet and Industrial Supply Center, Oakland, and Vision 2000 Maritime Development (volumes I and II) dated March 1997 (Draft EIS); and (2) additional oral and written communications between representatives of the Navy, Port, and Service.

This biological opinion identifies the need to develop additional information from studies for the analysis of the full extent and magnitude of potential adverse effects to the least tern, or any other federally listed or proposed species, from implementation of any of the reuse alternatives, and other interrelated/interdependent projects, by the Port. Should impact analysis studies being designed and implemented by the Port identify potential adverse effects to any federally listed or proposed species with selection and implementation of any of the proposed reuse alternatives, and other interrelated/interdependent projects, then either (1) the Navy shall reinstitute formal consultation, (2) a new consultation shall be initiated by



another Federal lead agency, or (3) the Port will need to apply for a permit pursuant to section 10(a)(1)(B) of the Act.

#### CONSULTATION HISTORY

On March 12, 1997, the Service received the Navy's March 6, 1997, request that we concur with the Navy's determination that the proposed Navy property disposal, and subsequent reuse of the FISCO by the Port under the reduced harbor fill alternative, would not adversely affect any federally listed species. On April 24, 1997, we notified the Navy in writing that we could not concur with their determination and we requested that the Navy initiate a programmatic section 7 formal consultation under requirements of the Act for the proposed disposal and reuse of the FISCO. On April 30, 1997, the Service received the Navy's April 28, 1997, request for initiation of section 7 formal consultation, under the Act, for the proposed disposal and reuse of the FISCO. Per a request from the Port, we have expedited the preparation and completion of this opinion so that they could meet predetermined grant approval deadlines for the reuse of the FISCO.

#### BIOLOGICAL OPINION

##### Description of the Proposed Action

The proposed action is disposal and reversion of Navy property, including structures, at the FISCO, and reuse of the FISCO under the Port's Vision 2000 Program. About 392 acres of the FISCO would revert to the Port's ownership after Navy disposal of the property. In May 1940, 392 acres at the FISCO site were deeded to the Navy by the City of Oakland with a reversionary clause requiring that the Navy revert the property to the Port after the property is no longer used for Federal military purposes. An additional 136 acres at the FISCO site have been acquired by the Navy and are not subject to any reversionary requirements; these lands are referred to as the nonreversionary property. Most of the nonreversionary property is currently leased to the Port on a 50-year lease and the remainder of this property is anticipated to be leased to the Port by the time of operational closure of the FISCO by the Navy in 1998. The Navy has discretionary authority to convey the entire nonreversionary property directly to the Port upon operational closure of the FISCO.

The 528-acre FISCO lies within the municipal limits of the City of Oakland (City) in Alameda County and is within the planning jurisdiction of the Port, which is an independent agency of the City and responsible for planning, developing, and administering the City's marine terminal facilities for waterborne commerce. The FISCO site is essentially flat and developed with an array of industrial, transportation, and maritime uses. The FISCO is bounded by the Oakland Middle Harbor to the west, 7th Street to the north, Middle Harbor Road and Southern Pacific West Oakland Railyard to the east, and the Union Pacific West Oakland Intermodal Railyard to the south.

The no action alternative by the Navy would result in the Navy retaining ownership of the 136 acres of nonreversionary Navy property under caretaker status. Under the no action alternative, the Navy would continue leasing the 528-acre FISCO site to the Port under the current 50-year lease agreement authorized by special legislation with allowances to the Port to demolish existing structures as needed. The 392 acres of reversionary Navy property automatically would revert to the Port upon operational closure in 1998. Conveyance to the Port of the 136 acres of nonreversionary Navy property would not occur under the no action alternative. Contamination cleanup on the FISCO site would be continued by the Navy. Under the no action alternative, the remaining 290 acres of non-Navy property would not be developed as part of the Port's Vision 2000 Program. Existing railroad operations would continue, using both Southern Pacific and Union Pacific railyards, in their present configurations and locations. Burlington Northern-Santa Fe container traffic through the Port facilities would continue along Interstate 80. Existing marine terminal operations also would continue.

Under the proposed action of property disposal at the FISCO by the Navy, 136 acres of nonreversionary Navy property would be conveyed to the Port. Caretaker, environmental cleanup, and leasing actions associated with Navy disposal of nonreversionary Navy property would continue after operational closure and prior to property disposal. Property disposal by the Navy would precede implementing each of the Port's reuse plan alternatives.

The Port's reuse plan, the Vision 2000 Program, is a schedule of phased improvements or development projects to modernize and expand the Port's facilities. The Vision 2000 Program includes (1) 136 acres of nonreversionary Navy property, (2) 392 acres of reversionary Navy property, and (3) 290 acres of non-Navy property. The Vision 2000 Program, proposes development of ship, rail, and truck cargo handling facilities to meet the anticipated demand for transportation services in San Francisco Bay (Bay) and northern California and to national markets. The Vision 2000 Program would include development of public waterfront access and a marine habitat enhancement area in the Oakland Middle Harbor, and would expand and upgrade the existing marine, rail, and truck access facilities. The Vision 2000 Program proposes four alternatives for reuse of the FISCO by the Port: (1) maximum marine terminal/maximum rail terminal alternative, (2) minimum marine terminal/minimum rail terminal alternative, (3) maximum marine terminal/minimum rail terminal alternative, and (4) reduced harbor fill alternative. Although not discussed in the Draft EIS, the Port plans to deepen the Oakland Inner Harbor to 50 feet below mean lower low water (MLLW) as part of the proposed expansion of the terminal areas under the reuse alternatives.

The maximum marine/maximum rail alternative would maximize development of a joint intermodal rail terminal to serve Union Pacific, Southern Pacific, and Burlington Northern-Santa Fe railroads, and new marine terminals and ancillary facilities. The proposed rail terminal would occupy about 380 acres. This alternative would involve construction of five 1,200-foot berths and marine terminals along the Oakland Inner Harbor, covering about 260 acres. This level of proposed development would require relocation of the Harbor Transportation Center and Middle Harbor Road. Demolition and site preparation would be required prior to the construction of the proposed facilities.



The maximum marine/maximum rail alternative includes development of a 206-acre public waterfront access and marine habitat enhancement area in the Oakland Middle Harbor. About 29 acres would be available for public access along the shoreline and at the Western Pacific mole, while the remaining 177 acres would be dedicated to habitat enhancement. This development would provide public access for pedestrians, bicyclists, and vehicles along the entire perimeter of the Middle Harbor and would include areas for spectator sports, informal recreation, nature study, and a marina. Habitat creation and restoration would be developed along the northern and southern perimeters of Middle Harbor. Parking also would be provided to accommodate more than 400 vehicles.

Under the maximum marine/maximum rail alternative, about 17 acres of fill would be removed from along the Oakland Inner Harbor, and about 22 acres of covered fill (i.e., pile-supported fill over water) would be removed from the Oakland Middle Harbor. Placed fill would include hard materials, primarily in the Oakland Middle Harbor for marine and rail terminal development, and fill over water, such as for the proposed marine terminal berths in the Oakland Inner Harbor. For this alternative, the net total amount of solid fill would increase by about 42 acres and the net total amount of pile-supported fill would be reduced by about eight acres. Subtidal fill would be placed in the Oakland Middle Harbor to raise the bottom to an average depth of about minus five to six feet below MLLW to allow for possible subtidal marine habitat enhancement, such as eelgrass habitat.

The minimum marine/minimum rail alternative would involve development of about 190 acres of new rail terminal to serve the Burlington Northern-Santa Fe Railroad. Grade-separated access at the main gate would route truck traffic over rail tracks and 7th Street into the rail terminal. This alternative assumes that the present Union Pacific intermodal operations would remain on the waterfront property it currently leases from the Port along the Oakland Inner Harbor and that the Southern Pacific operations would remain in their current configuration and location. This alternative also would involve developing an approximate 100-acre marine terminal in the Oakland Middle Harbor, along with a channel and turning basin. In addition, new marine terminal uses would be constructed on about 27 acres in the Oakland Outer Harbor on Port and Oakland Army Base property. The Navy has no disposal authority over the Oakland Army Base property and any decision allowing Port use of this land would require separate approval from the U.S. Department of Army (Army). Demolition and site preparation would be required prior to the construction of proposed facilities.

The minimum marine/minimum rail alternative includes development of a 85-acre public waterfront access and marine habitat enhancement area in the northern portion of the Oakland Middle Harbor. About 14 acres would be available for public access at Point Arnold, while the remaining 71 acres would be dedicated to habitat enhancement. This development would provide public access along the northern perimeter of the Middle Harbor and would include areas for recreational sports facilities, such as baseball and softball, areas for passive recreation such as picnicking, and a promenade along Point Arnold. Habitat creation and restoration would be developed along the northern edge of Middle Harbor, and parking would be provided to accommodate about 250 vehicles. Under the minimum marine/minimum rail alternative, about



60 acres of net fill would be placed in portions of the Oakland Middle Harbor and in the Oakland Outer Harbor to construct proposed marine terminals. About 29 acres of pile-supported fill would be removed from the Middle and Outer Harbors and replaced with two new berths. For this alternative, the net total amount of solid fill would increase by approximately 60 acres and the net total amount of pile-supported fill would be reduced by about 23 acres.

The maximum marine/minimum rail alternative would maximize marine terminal development along the Oakland Inner Harbor and would involve development of a 190-acre new railroad intermodal terminal, similar to the minimum marine/minimum rail alternative, to serve the Burlington Northern-Santa Fe Railroad. Support tracks would be located on a portion of the Oakland Army Base. The Navy has no disposal authority over the Oakland Army Base property and any decision allowing Port use of this 11-acre area would require separate approval from the Army. Grade-separated access to the new rail terminal at the main gate would route truck traffic over rail tracks and 7th Street, without impeding traffic along 7th Street. The maximum marine/minimum rail alternative assumes that Union Pacific would consolidate all of its current intermodal operations into Southern Pacific's facilities. New marine terminals would occupy about 290 acres along the Oakland Inner Harbor and would include five new 1,200-foot berths. This marine terminal development would require relocation of the Harbor Transportation Center. Demolition and site preparation would be required prior to the construction of proposed facilities.

The maximum marine/minimum rail alternative would include development of a 239-acre public waterfront access and marine habitat enhancement area in the Oakland Middle Harbor. About 39 acres would be available for public access along the shoreline and at Point Arnold and the Western Pacific mole, while the remaining 200 acres would be dedicated to habitat enhancement. This development would provide public access along the entire perimeter of the Middle Harbor and would include areas for spectator sports and informal recreation at the Western Pacific mole and Point Arnold. Habitat creation and restoration would be developed along the northern and eastern perimeters of Middle Harbor. Parking would be provided to accommodate about 270 vehicles. Similar to the maximum marine/maximum rail alternative, about 17 acres of hard fill would be removed from the Oakland Inner Harbor, and about 22 acres of covered fill would be removed in the Oakland Middle Harbor for marine terminal development. Placed fill would include hard materials, primarily in the Oakland Middle Harbor for marine terminal development, and covered fill, such as for the proposed marine terminal berths in the Oakland Inner Harbor. For this alternative, the net total amount of solid fill would increase by about 18 acres and the net total amount of pile-supported fill would be reduced by about eight acres.

The reduced harbor fill alternative would involve development of about 320 acres of intermodal rail terminal. The new rail terminal would serve the Union Pacific, Southern Pacific, and Burlington Northern-Santa Fe railroads. Grade-separated access to the new rail terminal at the main gate would route truck traffic over rail tracks and 7th Street without impeding traffic along 7th Street. This alternative also would include development of about 275 acres of marine terminal space and five new berths along the Oakland Inner

Harbor. This proposed development would require relocation of the Harbor Transportation Center and Middle Harbor Road. Demolition and site preparation would be required prior to the construction of proposed facilities.

The reduced harbor fill alternative would include development of a 227-acre public waterfront access and marine habitat enhancement area in the Oakland Middle Harbor. About 31 acres would be available for public access along the shoreline and at Point Arnold and the Western Pacific mole, while the remaining 196 acres would be dedicated to habitat enhancement. This development would provide public access along the entire perimeter of the Middle Harbor and would include areas for spectator sports at Point Arnold and informal passive recreation, such as picnicking, hiking, and kite flying at the Western Pacific Mole. Habitat creation and restoration would be developed along the eastern and southern perimeters of Middle Harbor. Parking would be provided to accommodate about 150 vehicles. Compared to the other three alternatives, the reduced harbor fill alternative requires the least net amount of solid fill in the Inner and Middle harbors to construct on-site transportation infrastructure and results in a reduction of nine acres. The net total amount of pile-supported fill would be reduced by about eight acres. The Oakland Inner Harbor would be expanded to an approximate width of 730 feet at the northern end of the proposed marine terminal area. As a result, approximately 44 acres of hard fill would be removed from the Oakland Inner Harbor, while about 22 acres of covered fill would be removed in the Oakland Middle Harbor. Placed fill would include about 35 acres of hard materials, primarily in the Oakland Middle Harbor for development of marine terminals, and approximately 14 acres of covered fill, such as for the proposed marine terminal berths in the Oakland Inner Harbor.

### **Species Account/Environmental Baseline**

#### *California Least Tern*

The California least tern (least tern) was federally listed as endangered in 1970 (35 **FR** 1604). California least terns nest primarily in coastal areas from San Luis Obispo County south to San Diego County. The only nesting area for least terns north of San Luis Obispo County is in the Bay. In recent years, only one site in the Bay at Naval Air Station Alameda (NAS Alameda), just south of and adjacent to the FISCO site, has supported nesting least terns. There are two other nesting sites in the Bay area, but the Oakland Airport site has not been used in years and the Pacific Gas and Electric Pittsburg site supports only 1 to 3 pairs each year. Therefore, the NAS Alameda site currently represents the entire Bay area population and is the most northern of least tern breeding colonies by about 178 miles (Caffrey 1995). Because of its northern location, the NAS Alameda site is relatively unaffected during El Niño years when many southern California sites experience pronounced breeding failure resulting from limited food availability.

The least tern breeding site at NAS Alameda has played a significant role in recent increases in the number of least terns throughout California. The NAS Alameda site is consistently one of the most successful sites in California, mainly because the site has not been plagued by high levels of predation and human disturbance during most years, which predominate at most other least



tern sites in California (Caffrey 1995). In 1996, an estimated 208 pairs of least terns nested at the colony, and at least 233 young fledged successfully (Collins 1996). By producing large numbers of fledglings each year, the colony adds large numbers of potential new breeding birds to the statewide population (this site is one of the most important "source" populations in California serving to balance out losses at many "sink" locations throughout the state). Between 1987 and 1994, the NAS Alameda site supported 5 to 6 percent of the statewide breeding population out of 35 to 40 sites each year, but produced an average of 10.6 percent of the total number of fledglings produced statewide in each of those years (Caffrey 1995). Offshore water around NAS Alameda and the FISCO contains extensive, generally productive foraging habitat areas for least terns breeding at the NAS Alameda site. The nesting season typically extends from early mid-April through August at NAS Alameda. In the Bay, least terns typically leave the nest site at NAS Alameda after the young have fledged. The adults and fledglings utilize salt ponds and other Bay habitats as post-breeding foraging and roosting areas until September, when the birds migrate south. Several salt ponds in the south Bay provide important foraging and roosting areas for least terns during the post-breeding season which generally extends from late June through the middle of September.

#### **Effects of the Proposed Action**

The Draft EIS identifies the following impacts to least terns from each of the proposed reuse alternatives: (1) reduced foraging ability and/or opportunities from short-term turbidity associated with dredging and construction of new berths in the Oakland Inner Harbor and (2) removal of about 200 square feet of eelgrass beds within the Oakland Inner Harbor from construction of the proposed marine terminal. The Draft EIS states that a detailed analysis of impacts to the least tern would be conducted in the future by the Port and mitigation measures developed to compensate for identified impacts. The Draft EIS confines this analysis, and development of possible mitigation measures, to those impacts associated with increased turbidity and in-water construction activity during the least tern nesting season resulting from the proposed action. The loss of eelgrass beds within the Oakland Inner Harbor would be mitigated with the proposed creation of eelgrass beds in the Oakland Middle Harbor. According to the Draft EIS, no impacts to least terns are anticipated from the development of the Marine Area Enhancement Area within the Oakland Middle Harbor.

The Service has identified a number of other potential adverse effects to least terns from the proposed reuse of the FISCO and other interrelated/interdependent projects, including deepening of the Oakland Inner Harbor channel and berthing areas. These include, but are not limited to: (1) permanent and temporary loss or degradation of least tern foraging habitat from deepening of the Oakland Inner Harbor, (2) predation threats on the nesting colony site at NAS Alameda and in existing and created foraging areas in the FISCO area, (3) human disturbance from public access provided under the reuse plan in areas proposed to be created as least tern foraging or roosting areas in the Oakland Middle Harbor, and (4) increased contaminant loading from development runoff associated with increased facilities constructed and operated under the reuse plan. In addition, potential adverse effects to



federally listed or proposed species or their critical habitat could occur from the disposal of dredged material associated with deepening of the Oakland Inner Harbor channel, depending upon the site(s) ultimately selected for disposal of dredged material. Presently, the Port is implementing studies on, but not limited to, current least tern foraging use and potential impacts to least tern foraging areas in the FISCO area. The Port will continue to develop and implement appropriate studies to determine the full array and extent of all potential adverse effects to least terns and other federally listed or proposed species from implementation of reuse alternatives identified in the Draft EIS, and other interrelated/interdependent projects. However, until these studies are completed, and the results can be fully analyzed by the Service, we are unable to make a determination on the magnitude of potential adverse effects on least terns from implementation of any of the proposed reuse alternatives, and other interrelated/interdependent projects. The Service also is unable to evaluate the adequacy of any potential avoidance, minimization, or other mitigation measures that may be proposed by the Port until such studies are completed.

#### **Cumulative Effects**

Cumulative effects are those impacts of future non-Federal actions affecting listed species that are reasonably certain to occur in the action area. Future Federal actions are subject to the consultation requirements under section 7 of the Act and, therefore, are not considered cumulative to the proposed action.

The most serious cumulative effect on least terns in the Bay is the degradation of the Oakland International Airport nesting site as a result of red fox predation and vegetation growth over several years. Long-term loss of the Oakland Airport nesting site would leave only one nesting site in the Bay at NAS Alameda, a military base operationally closed in April 1997. The future of the Alameda nesting site is highly dependent on development and management proposals currently being perfected. The current situation with only one viable nesting site in the Bay makes this endangered species highly vulnerable to stochastic extinction in the Bay.

#### **Conclusion**

After reviewing the current status of the California least tern, the environmental baseline, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the disposal of Navy property at the FISCO, as proposed, is not likely to jeopardize the continued existence of the endangered California least tern. Lacking information to fully analyze the extent and magnitude of potential adverse effects to the California least tern, or any other federally listed or proposed species or their critical habitat, from implementation of any of the reuse alternatives for the FISCO, and other interrelated/interdependent projects, by the Port, the Service is unable to make a conclusionary decision on whether the implementation of any of the reuse alternatives, and other interrelated/interdependent projects, would jeopardize the continued existence of the endangered California least tern or any other federally listed or proposed species, or adversely modify or destroy critical habitat. No

critical habitat has been designated for the least tern, therefore, none will be affected for this species.

#### INCIDENTAL TAKE STATEMENT

Section 9 of the Act, and Federal regulation pursuant to section 4(d) of the Act, prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as actions that create the likelihood of injury to listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

#### Amount or Extent of Take

For the California least tern, we anticipate that no incidental take of this species would occur as a result of the proposed disposal of Navy property at the FISCO. Furthermore, because information is lacking at this time to fully analyze the extent and magnitude of potential adverse effects to the California least tern, or any other federally listed or proposed species or their critical habitat, from implementation of any of the reuse alternatives for the FISCO, and other interrelated/interdependent projects, by the Port, we are unable to quantify the amount of incidental take of the least tern, or any other federally listed or proposed species, that may occur from implementation of any of the reuse alternatives. Therefore, no incidental take is authorized for the implementation of any of the reuse alternatives, or variations thereof, for the FISCO, and other interrelated/interdependent projects, by the Port in this biological opinion.

The Service anticipates that forms of incidental take to federally listed or proposed species, which could occur as a result of reuse of the FISCO and other interrelated/interdependent projects, including deepening of the Oakland Inner Harbor channel and berthing areas, and the disposal of dredged material, by the Port, could include, but not be limited to, the following:

1. Permanent and temporary loss or degradation of least tern foraging habitat from deepening of the Oakland Inner harbor,
2. Predation threats on the least tern nesting colony site at NAS Alameda and in existing and created least tern foraging areas in the FISCO area,



3. Human disturbance to least terns from public access provided under the reuse plan in areas proposed to be created as least tern foraging or roosting areas in the Oakland Middle Harbor,
4. Increased contaminant loading to least tern foraging areas from development runoff associated with increased facilities constructed and operated under the reuse plan, and
5. Potential adverse effects to federally listed or proposed species from the disposal of dredged material associated with the proposed action, depending upon the site(s) ultimately selected for disposal of dredged material.

#### **Effect of the Take**

In the accompanying biological opinion, the Service has determined that there is no anticipated take associated with the proposed disposal of Navy property at the FISCO, and that disposal is not likely to jeopardize the continued existence of the endangered California least tern. The Service is unable to make a conclusionary decision on whether the implementation of any of the reuse alternatives, and other interrelated/interdependent projects, would jeopardize the continued existence of the endangered California least tern or any other federally listed or proposed species, or adversely modify or destroy critical habitat. No critical habitat has been designated for the least tern, therefore, none will be affected for this species.

#### **Reporting Requirements**

The Service shall be notified within twenty-four (24) hours of the finding of any injured or dead California least tern or their eggs, or any unanticipated damage to California least tern habitat associated with the proposed action. Notification must include the date, time, and precise location of the specimen/incident, and any other pertinent information. The Service contact persons in this office's Endangered Species Division are Jim Browning or Mike Thabault (telephone 916/979-2725). Any dead or injured specimens shall be repositied with the Service's Division of Law Enforcement, 3310 El Camino Avenue, Suite 140, Sacramento, California 95821-6340 (telephone 916/979-2987).

#### **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that may be used to help implement recovery plans and recovery actions, or to develop information.

The Service recommends that the Navy continue to effectively protect and manage the least tern nesting colony at NAS Alameda while the property remains in Navy ownership to help meet the recovery objectives for this species.




**REINITIATION NOTICE**

This concludes formal consultation and conference on the proposed action outlined in your April 28, 1997, request for formal consultation. As provided in 50 CFR section 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded, as previously described; (2) new information reveals effects of the actions that may affect listed species or critical habitat in a manner that was not considered in this opinion; (3) the agency action is substantially modified in a manner that causes an effect to listed species that was not considered in this opinion; or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation. Should impact analysis studies being designed and implemented by the Port identify potential adverse effects to any federally listed or proposed species with selection and implementation of any of the proposed alternatives, and other interrelated/interdependent projects, then either (1) the Navy shall reinitiate formal consultation, (2) a new consultation shall be initiated by another Federal lead agency, or (3) the Port will need to apply for a permit pursuant to section 10(a)(1)(B) of the Act. The Service shall not be precluded from determining in any future formal consultation that any of the proposed reuse alternatives, and other interrelated/interdependent projects, fail to ensure conservation of any federally listed or proposed species. The Service also shall not be precluded from identifying any reasonable and prudent alternatives or measures that ensure conservation of any federally listed or proposed species.

If you have any questions regarding this biological opinion, please contact Jim Browning or Michael Thabault in this office's Endangered Species Division at (916) 979-2725.

Sincerely,

  
For Wayne S. White  
Field Supervisor

cc: Reg. Dir., (ARD-ES), Portland, OR  
SFBNWR, Newark, CA (J. Buffa)  
Dir., CDFG, Sacramento, CA  
Port of Oakland, Oakland, CA (J. Amdur/J. Zaitlin)  
L. Feeney, Alameda, CA  
L. Collins, Berkeley, CA

#### LITERATURE CITED

- Caffrey, C. 1995. Characteristics of California least tern nesting sites associated with breeding success or failure, with special reference to the site at the Naval Air Station, Alameda. Final report prepared for the U.S. Navy under contract no. N62474-94T-00302. 69 pp.
- Collins, L.D. 1996. California least tern nesting season at the Alameda Naval Air Station 1996. Report prepared for the U.S. Navy under contract no. N62474-96-M-6043. 65 pp.



# BIOLOGICAL FIELD SERVICES

WILDLIFE CONSULTATION - DOCUMENTATION - PROTECTION

May 5, 1997

Jody Zaitlin  
Environmental Department  
Port of Oakland  
530 Water Street  
Oakland, CA 94607


Dear Jody,

The question of a burrowing owl at Middle Harbor Park came to my attention five or six years ago. I visited the park at that time and found no owl. Middle Harbor Park, located on the north side of the Oakland/Alameda Estuary is less than 0.7 acres including the paved parking area and a portion of the access road. The park has a small pier and is used primarily for fishing. Lunch time visitors and families frequent the park, as well. The small park can be a very busy place. It is situated between the American President Lines' port/dock facilities and the Union Pacific Railroad yard. Adjacent areas are open water or industrial, mostly paved land. Foraging opportunities for burrowing owls in this area appear to be very poor at best. Unfortunately, neither the record for the owl siting nor my visit in the early 1990s is available, so the information is now anecdotal.

From January through April of 1997 I've made 16 visits to Middle Harbor Park performing bird surveys. Habitat at this park includes a few trees, a small grassy area with picnic table, a few large rocks along the west end of the grass, the pier, and pavement. There are small holes, 3 to 8 cm, under some of the rocks, and openings in rip-rap bordering the water, but none appear suitable for burrowing owls. No burrowing owl sign has been detected. No ground squirrels have been seen during any of the 1997 visits.

Middle Harbor Park has never appeared to be a location that would likely support a burrowing owl for any length of time. The nearest burrowing owl habitat to the Middle Harbor Park is located at the now closed Naval Air Station in Alameda.

Sincerely,

  
Leora R. Feeney



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ENTRIX 77301  
 Project #377301  
 590 Ygnacio Valley Road  
 Suite 200  
 Walnut Creek, CA 94596  
 (510) 935-8920  
 (510) 935-5368 FAX

May 12, 1997

Mr. Jon Amdur  
 Port of Oakland Environmental  
 530 Water Street  
 Oakland, CA 94607

Re: Shallow Subtidal Habitats West of U.P. Mole near Middle Harbor

Dear Jon,

As you know, on 9 May 1997 ENTRIX and Port personnel investigated two sub-areas of Site G at the southern border of Middle Harbor (Figure 1). The major objective of the survey was to characterize a hard-bottom area immediately east of the small "lighthouse" off the U.P. mole. A second objective was to investigate the shallow subtidal area near shore at the mole and the eel grass area off the NAS runway (site D). We also surveyed the eastern two thirds (approximately) of the riprap along the northern shore of Inner Harbor Channel for signs of eel grass.

The Inner Harbor channel was surveyed from about 0715 to 0730. The hard bottom snorkeling surveys were done from approximately 0800 to 0930, which spanned the low tide of (nominally) -0.9 ft. The nearshore area at the mole was surveyed from about 0930 to 1045, and Site D was surveyed from about 1050 to 1115.

The hard-bottom area near the lighthouse appeared to be the remnant of a roadway or other access structure, possibly armored at one time with concrete rubble and other debris. Algal cover was extensive, consisting mainly of *Sargassum muticum*, *Cryptopleura ruprechtiana*, *Polyneura latissima*, *Chondracanthus harveyanus*, and *Ulva* sp. cf. *lobata*. (Algal identifications by Dr. Dick Moc, Berkeley Herbarium). One fish (unidentified sculpin) and several red rock crab (*Cancer productus*) were observed in addition to many attached invertebrates including mussels and oysters. Visibility was fair-to-poor, but a useful underwater video recording was made of the major features.

Eel grass (*Zostera marina*) was discovered near the shoreline at the U.P. mole, in an area where obstacles had prevented trawling and seining during earlier visits. The plants were distributed at an approximate elevation of -4 to -6 ft along an approximately 100-ft stretch of shoreline (Figure 2). Most plants were single or in small clumps. The largest clump observed consisted of an approximately 3 ft by 6 ft mass of very dense vegetation, some of it fouled by a filamentous, reddish alga. Attempts to obtain video footage of the eel grass were unsuccessful. Still photos (as yet undeveloped) partially documented the

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JON\_MH.DOC rev. May 12, 1997

location of some of the first plants encountered. The bottom consisted of silty sand, rocky debris, and the remains of broken-off wooden pilings.

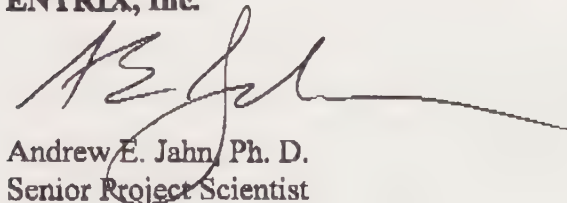
The eel grass at Site D covered an extensive area of several hundred feet just off the sand beach, as witnessed during a beach seine survey on 30 April. A specimen consisting of two stems connected to an approximately 5-inch length of rhizome was collected and placed in your custody for later study.

No eel grass was seen in the Inner Harbor Channel.

I will send copies of photos from Site G when they are available.

Sincerely,

**ENTRIX, Inc.**

A handwritten signature in black ink, appearing to read 'A. E. Jahn', with a long horizontal flourish extending to the right.

Andrew E. Jahn, Ph. D.  
Senior Project Scientist

cc: C. Herrala, K. Merkel  
attachments



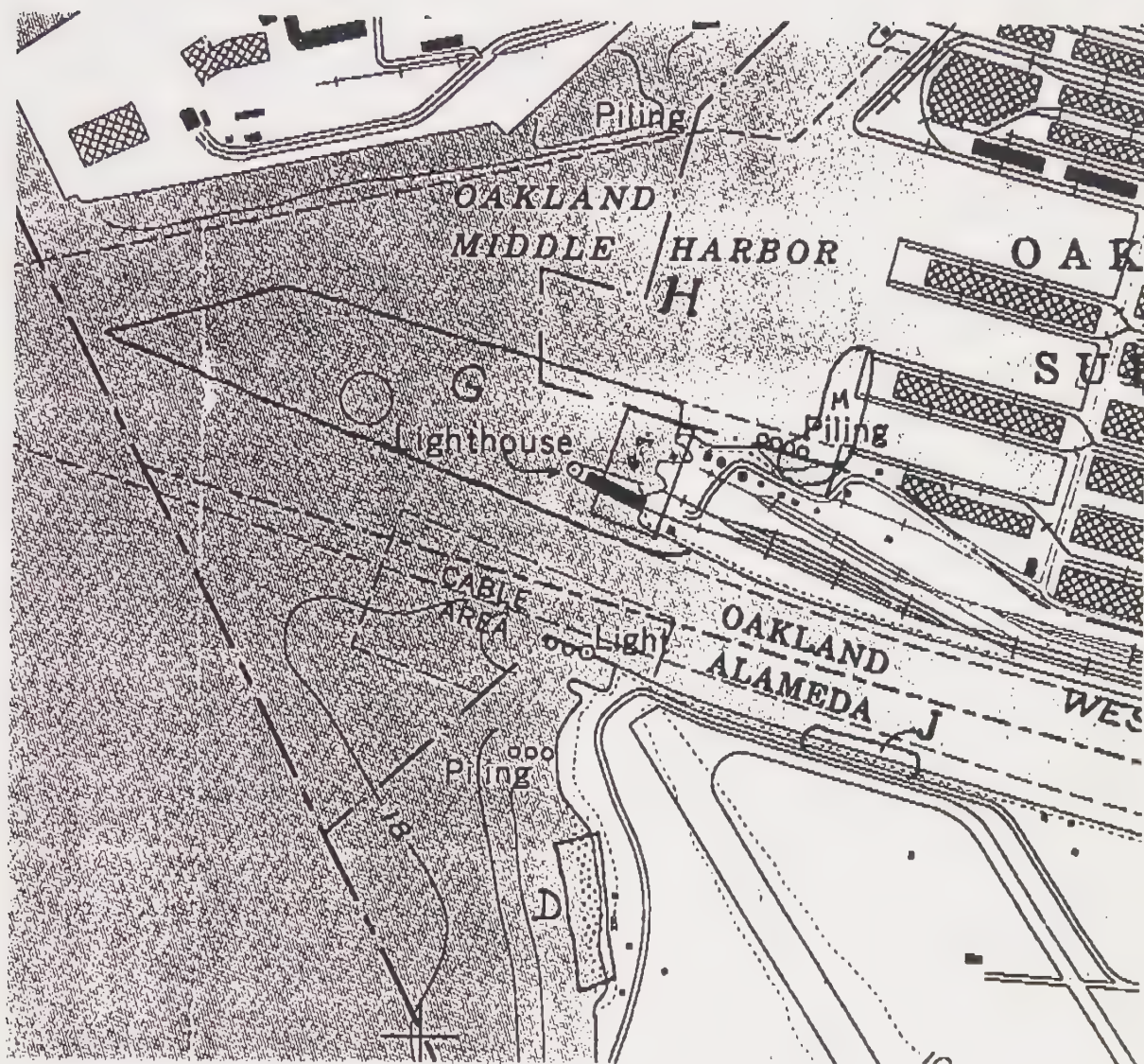


Figure 1.  
The area marked  
"e.g." is blown  
up in Fig. 2.

W.P. Mole - Middle Harbor 5/9/91

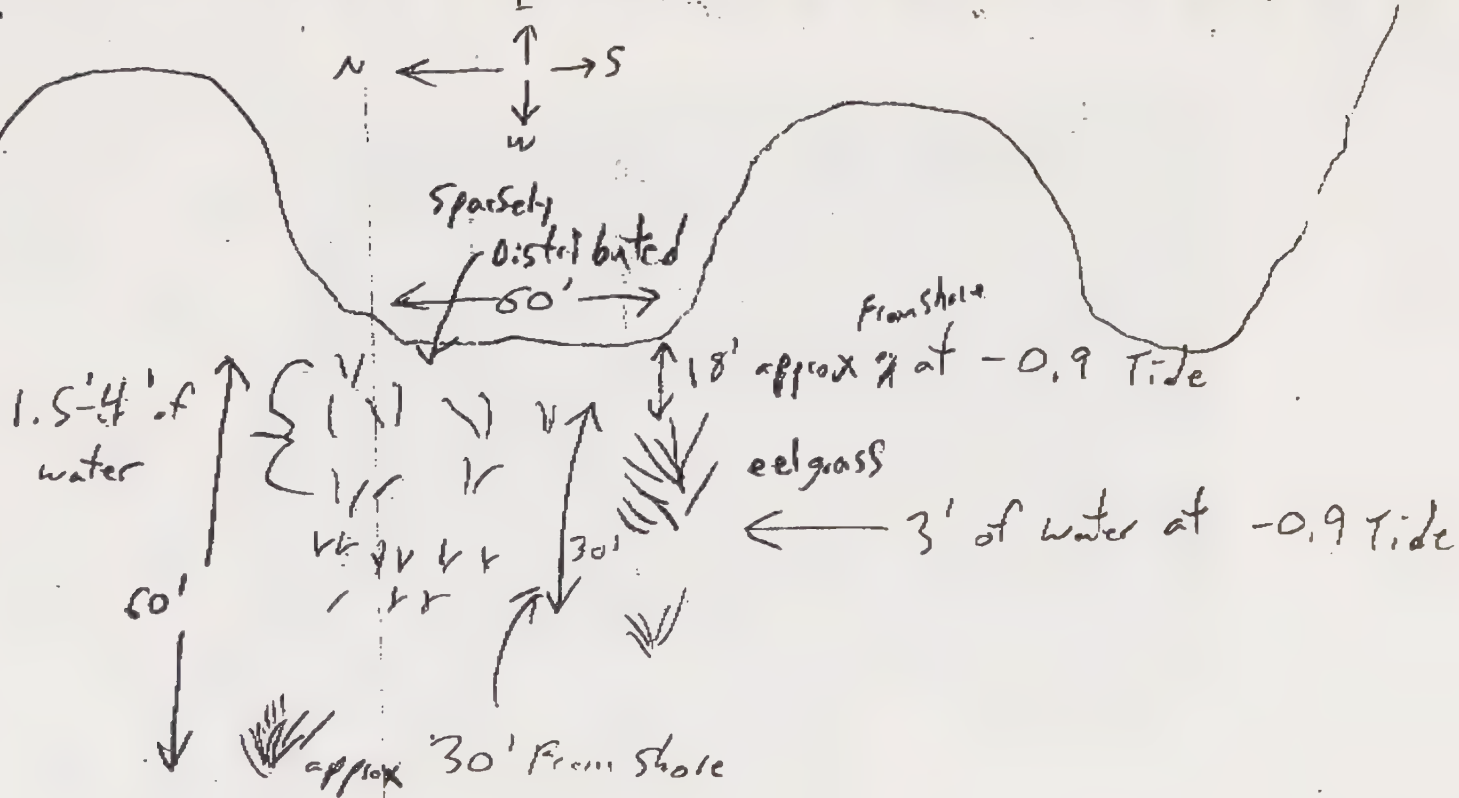
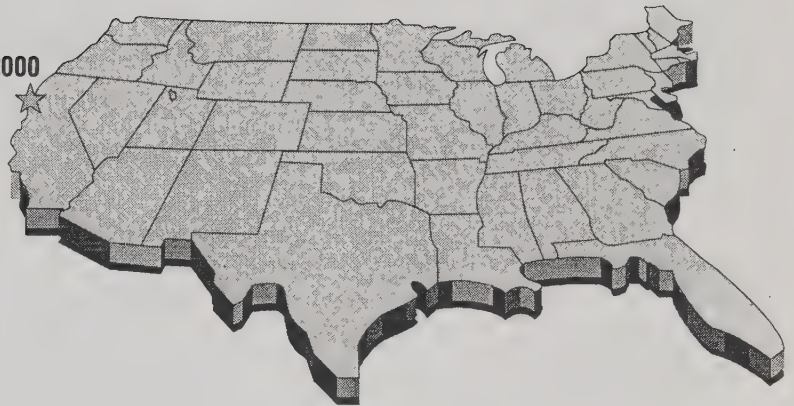


Figure 2.

Substrate - mud and rock mix with a lot of shell fragments

- The northern portion of the bed is sandy with a small proportion of mud - rocks are strewn about

FISCO/Vision 2000



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APPENDIX I  
THE PORT OF OAKLAND AND PORT TENANT  
REGIONAL STORM WATER  
POLLUTION PREVENTION PROGRAM  
MARINE TERMINALS SUB-GROUP



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**The Port of Oakland and Port Tenant  
Regional Storm Water Pollution Prevention Program**

**Marine Terminals Sub-Group**

Prepared by  
The Port of Oakland  
Environmental Department

September 16, 1992

Revisions:  
June 18, 1993  
and  
April 11, 1994





**The Port of Oakland and Port Tenant  
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The Port of Oakland and Port Tenant Regional Storm Water Pollution Prevention Program for the Marine Terminals Sub-Group has been prepared to satisfy the requirements of Section A of Water Quality Order 91-13-DEQ (as amended by Water Quality Order No. 92-12-DEQ), National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001. The present revision of this document and all attachments were prepared under my direction or supervision.



Jon Amdur  
Environmental Department  
Port of Oakland

1 - 4 - 95  
Date



# **The Port of Oakland and Port Tenant Regional Storm Water Pollution Prevention Program**

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## **Regional Storm Water Pollution Prevention Program Marine Terminals Sub-Group**

### **I. Introduction**

In 1987, amendments to the Clean Water Act (CWA) added section 402(p) which established a framework for regulating industrial and municipal storm water discharges under the National Pollutant Discharge Elimination System (NPDES). On November 16, 1990, the Environmental Protection Agency (EPA) published final regulations that established requirements for storm water discharge permits for specific categories of industrial facilities. These categories include shipping, trucking and air transport facilities that conduct vehicle maintenance, or facilities where materials are stored in exposed areas.

The regulations allow authorized states to issue general permits or individual permits to regulate industrial storm water discharge. The California State Water Resources Control Board (Board) has elected to issue a statewide General Industrial Discharge Permit (General Permit) that will cover all industrial discharges except construction activities. To be covered under the State's General Permit, dischargers were required to submit a Notice of Intent (NOI) with the appropriate fees to the Board by March 30, 1992. Port tenants with activities regulated under the General Permit submitted individual NOIs to the Board.

In order to help its tenants and others comply with the new regulations, the Port has organized a working Group (Group) to prepare a storm water monitoring program. The Port is also providing assistance to its tenants in the preparation of the required Storm Water Pollution Prevention Plans (SWPPP), as well as the application of Best Management Practices (BMP). The Group is divided into two sub-groups. The sub-group divisions are based on the members' Industrial Classification and the water body into which they discharge. The two sub-groups consist of the Airport Sub-Group and the Marine Terminals Sub-Group.

In a joint effort between the Port of Oakland and its tenants, a Regional Storm Water Pollution Prevention Plan (RSWPPP) has been developed. This RSWPPP addresses management plans and Best Management Practices (BMPs) that can be implemented uniformly throughout the Port region. Uniformity in management of potential sources of pollution will make compliance easier and can save money on implementation by combining programs. The BMPs have been designed to maximize the benefits and minimize the costs of implementation.

Although a series of "generic" BMPs have been compiled for this program (Appendix A), site-specific BMPs will depend on the type and extent of the activities conducted on site.

Each Port tenant will be furnished a copy of this plan. It is the tenant's responsibility to implement the plans. Additional "Site-Specific" information will be supplied by the tenants and will be included in the appendix of the plans. Site-specific information includes:

1. Hazardous Materials Business Plans, which include a list of all the hazardous materials and the approximate amounts used on site. The Hazardous Materials Business Plans are to be prepared in conformance with Chapter 6.95, Section 25504, of the California Health & Safety Code. Section 25504 requires: (1) an inventory of all hazardous substances or chemical products handled by the business; (2) emergency response plans and procedures to be implemented in the event of release of a hazardous material; and (3) provisions to train all employees in safety procedures to be implemented in the event of a release, or threatened release, of hazardous material. The inventory is to contain sufficient information on how and where the hazardous materials are handled.
2. A site map showing the site boundaries, buildings, storm drains, fueling facilities, maintenance areas, vehicle washing areas, grease trap locations, and any other pertinent information.
3. Spill Prevention Control and Countermeasure (SPCC) plans.
4. Records of hazardous materials spills and disposal since 1988 (a good faith effort is expected in recording previous spills and disposal). In addition, maintain records of all employee training related to hazardous materials, spill response, and storm water education.
5. Descriptions of material loading, unloading and access areas (including hazardous waste/materials storage areas), existing structural and non-structural control measures (if any), methods of on-site storage and disposal of significant materials, and outdoor storage, manufacturing, and processing of materials.

This component of the RSWPPP covers the Marine Terminals Sub-Group (MTSG). Members of the MTSG are Port of Oakland industrial tenants whose major SIC codes consist of marine terminal operations, trucking and related services (Appendix B); activities in the MTSG are covered by SIC codes 3273, 3799, 4190, 4214, 4412, 4424, 4463, 4491, 4731, 4783; these tenants have submitted individual NOIs to the Board. Storm water from the MTSG members often combines with outside storm water sources and flows into the City of Oakland's storm drain system, which is connected in numerous locations with the Oakland Estuary and San Francisco Bay (Figure 1).



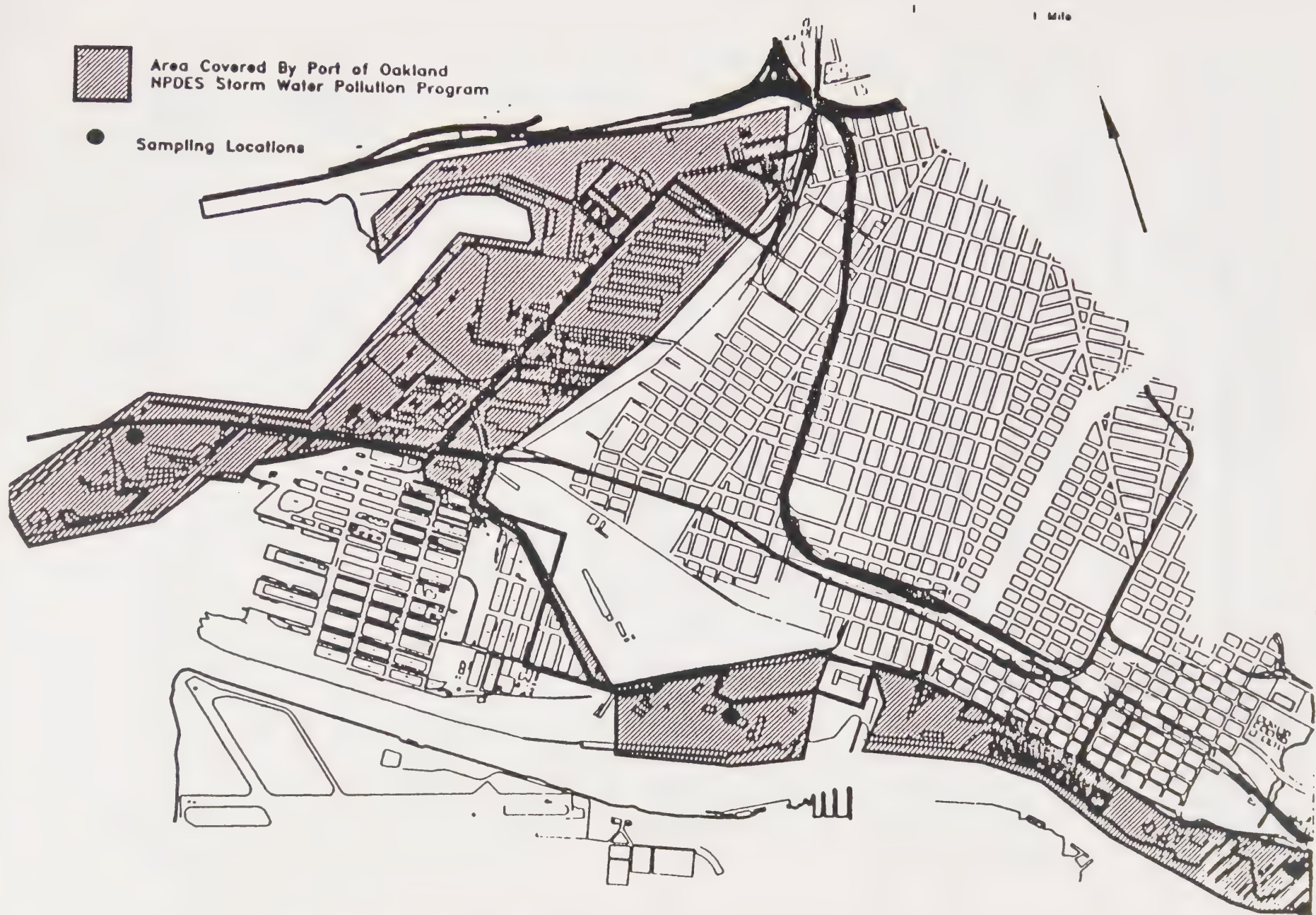


Figure 1: Marine Terminals Area

## **II. General Approach**

Many of the management practices included in this plan are based on BMPs that have been shown to successfully reduce pollutant loads throughout the country. Others have been modified to suit the specific needs of marine terminal operations. The general premise for BMPs is common sense and awareness. The basic approach is as follows:

1. Do not allow any discharge to the storm sewer other than rainwater.
2. When possible, reduce the amount of hazardous substances used at the site.
3. Do as much vehicle maintenance work as possible indoors.
4. Store all hazardous substances properly and dispose of all hazardous wastes in accordance with all State, local, and Federal regulations.
5. If the facility does not currently have one, prepare a Hazardous Materials Business Plan and a Spill Prevention Control and Countermeasure (SPCC) plan. These plans are required under existing legislation (California Health and Safety Code Chapter 6.95, Section 25500, California Code of Regulations (CCR) Title 22, Section 67120 to 67126 and 67140 to 67145 and Title 40 Code of Federal Regulations (CFR) Part 112). However, SPCC plans are not required if the facility does not handle hazardous wastes and the underground buried storage capacity is 42,000 gallons or less of oil, and the storage capacity, which is not buried, of the facility is 1,320 gallons or less of oil, provided no single container has a capacity in excess of 660 gallons (40 CFR 112.1(d)(2)).
6. Maintain records of all employee training, hazardous materials disposal, and spills.
7. Use good housekeeping practices.

## **III. Facilities Upgrades and Capital Expenditures**

In a number of instances, facility upgrades will be beneficial in reducing pollutant loads to the Bay, and generally make permit compliance and maintenance easier on the permittee. Low-cost structural modifications, such as low berms around storm drains to collect sediment and to prevent the direct discharge of spilled material to the storm sewer system, could be constructed in the near future.

Other modifications such as hazardous materials storage areas can be expensive to design and construct and would require budgeting. Decisions should be made as to which upgrades would be most beneficial for each facility, and scheduling of the upgrades should be completed and adhered to. In most cases, the tenant will be responsible for facility upgrades.



All upgrade plans should be reviewed and permitted by the Port of Oakland Engineering Department prior to construction. Low-cost items such as tarps, spill prevention equipment, and inexpensive secondary containments, should be purchased as soon as possible.

#### **IV. Facility Maintenance**

Standard Port/Tenant lease agreements contain a clause that requires the tenant to maintain the facility. In addition, the agreement stipulates that the tenant must abide by all local, State, and Federal laws and regulations. It is therefore the tenants' responsibility to conduct all maintenance activities associated with the storm drain permit. If a tenant wishes to have the Port maintain the storm drain system as outlined in the RSWPPP, an agreement can be reached that will allow Port maintenance of the drains, with the associated costs passed on to the tenant.

#### **V. Designated Personnel**

Each permittee should designate an individual who will be responsible for NPDES permit compliance (Storm Water Compliance Coordinator). This person must have authority to act on the permit requirements and should be fully versed on the NPDES permit and the RSWPPP. Other personnel should be appointed as an alternate and should also have authority to act on NPDES issues.

In many instances, it is beneficial to have a Storm Water Coordination Committee to review current practices and to help in the modification of work habits. The Coordination Committee should consist of the compliance coordinator, the alternate coordinator, supervisors and staff who are expected to perform the BMPs daily. The Coordination Committee may need to meet only once or twice per year, although more frequent meetings are encouraged.

The designated responsible party for each tenant in the Group SWPPP is included in the list of tenants in Appendix B.

#### **VI. Inspections**

Annual inspections will be performed by Port personnel to ensure that all members within the group are in compliance with the SWPPP. The Port will conduct these inspections in addition to the regular inspections that are to be conducted by the main storm water



supervisor at each Port tenant activity. The Port inspector(s) are to complete written documentation of the inspections (audit checklists) for each visit and keep the documentation for at least five years.

## **Appendix A**

### **Generic Storm Water Pollution Prevention Plans Best Management Practices for Vehicle Service Facilities**





## **Generic Storm Water Pollution Prevention Plans**

### **Best Management Practices for Vehicle Service Facilities**

#### **1. Storm Drains**

##### **Applicable Rule: Storm Drain Protection**

Storm drains are designed to carry ONLY rainwater runoff. All other discharges are prohibited. This prohibition includes any fluid from vehicles including fuel, oil, grease, degreasing solutions, coolants, and rinse water from vehicle washing.

##### **Compliance:**

- a: Never pour any vehicle fluid into the storm drain system.
- b: Recycle vehicle fluids and all hazardous materials.
- c: If recycling is not possible, all wastes should be properly disposed of as required by State and Federal Regulations (disposal of hazardous materials is covered in the tenant's Hazardous Materials Business Plan).
- d: Where possible, waste reduction/waste minimization plans will be implemented to reduce the generation of potential pollutants.
- e: Prevent the accidental discharge of vehicle fluids or hazardous materials into both the storm sewer and the sanitary sewer systems. Methods for preventing these discharges are covered under Section 2 (Spill Response) and Section 8 (Secondary Containment of Hazardous Substances).
- f: General procedures for the prevention of discharges to the storm and sanitary sewer systems include:
  - In all circumstances where the facility is large enough to accommodate the equipment requiring maintenance, vehicle maintenance work will be performed inside or under covered structures.
  - For equipment that cannot be serviced under covered areas, all maintenance will be performed with drip pans or non-permeable tarps under the equipment. In addition, where adequate space exists, a bermed area can be constructed that will accommodate the vehicle requiring service. Any spills within the bermed area will be promptly cleaned up in accordance with procedures outlined in Section 2.

- During dry weather, storm drains can be protected using rubber or plastic mats to seal the drains. In addition, low berms can be constructed upstream of the storm drains.

g: Train all employees on procedures to reduce storm water pollution.

h: Label all storm sewer drains **STORM DRAIN: STORM WATER DISCHARGE ONLY**. Alternately, reiterate storm water runoff awareness during training and safety meetings.

i: Clean the storm drain catch basins once a year prior to the rainy season. This should be done in the following manner:

1. Inspect the basin for any sheen or petroleum odors.

- Maintain a record of all storm drain inspections (see enclosed forms).

2. If a sheen or petroleum odor is detected on the standing water or the sediment, you should:

- Have a certified analytical laboratory test the water and sediment prior to cleaning.
- If hazardous levels of contamination are detected, contract with a hazardous materials disposal firm for removal.
- If non-hazardous levels of contamination are found, disposal must be appropriate for the level of contamination.

3. If no sheen or odor is detected, clean out the basin by removing all debris that is accessible (**NOTE: DO NOT FLUSH THE SYSTEM WITH WATER**).

## 2. Spill Response

### Applicable Rule: Storm Drain Protection

Storm drains are designed to carry **ONLY** rainwater runoff. All other discharges are prohibited. This prohibition includes any fluid from vehicles including fuel, oil, grease, degreasing solutions, and coolants. Spill response plans will be created for each facility that handles hazardous substances.

### Compliance:

a: All spills, both large and small, must be cleaned up immediately. Any employee involved in spill response must be trained in the proper method of responding.

Training must include education on personal safety and methods of handling the materials safely (hazardous materials procedures training). The safety of the employee is the first concern. Proper equipment for spill response for each type of material, solvents, acids, etc., must be provided and must be readily available to the trained employee.

- b: All absorbent material and disposable personal protective gear must be disposed of in accordance with all State and Federal laws.
- c: If reportable quantities are spilled on site, notification will be made to the appropriate agencies as soon as possible. Depending on the material spilled and whether it enters the Waters of the State, notification will be made to the Oakland Fire Department, Regional Water Quality Control Board, U.S. Coast Guard, the Port of Oakland, California Department of Fish and Game, and any additional contractors required in order to control and clean up the spill. Site-specific spill response plans and phone numbers can be found in the Appendix. -(to be prepared by tenants)-

### 3. Sanitary Sewers

Applicable Rule:      Permit Requirements Under East Bay  
Municipal Utility District (EBMUD)

EBMUD is responsible for the treatment and discharge of sanitary waste water only. EBMUD does not have the ability to treat non-permitted industrial wastes, nor can they treat storm water runoff. The discharge of any waste chemicals, process water, or storm water to the sanitary sewer system is strictly prohibited. The discharge of any substance other than sanitary wastes must be permitted by EBMUD.

#### Compliance:

- a: Never dispose of any vehicle fluids, cleaning solvents, or other hazardous substances into the sanitary sewer system.
- b: Recycle vehicle fluids and all hazardous materials.
- c: If recycling is not possible, all wastes should be properly disposed of as required by all State and Federal regulations.
- d: Permanently seal all floor drains connected to the sanitary sewer system within vehicle maintenance areas.
- e: Use only biodegradable detergents in vehicle wash areas (See Section 9).



- f. Do not steam clean engines except in areas that are covered, bermed, and have drainage to the sanitary sewer system through an approved grease trap (See Section 9).
- g. Set up a preventative maintenance schedule for the inspection, cleaning, and proper disposal of all grease trap wastes.

#### 4. Floor Drains

Applicable Rule:      Permit Requirements Under East Bay  
   Municipal Utility District (EBMUD)

EBMUD prohibits the discharge of fluids from vehicle maintenance areas without a permit. Permits may be available for treated discharges to the sanitary sewer system. EBMUD requires that all non-permitted drains within vehicle maintenance areas must be permanently sealed.

#### Compliance:

- a. Permanently plug all floor drains within vehicle maintenance work areas, OR contact EBMUD to obtain a permit to discharge to the sanitary sewer system. (Port of Oakland tenants must notify the Port Building Permit Department prior to modifying any plumbing).
- b. Clean floors in the following manner:
  - Clean all spills using absorbent material such as sawdust or cat litter.
  - Sweep the floor using absorbent material. Reuse this material for numerous cleanings or for spill cleanup.
  - Mop the floor using biodegradable detergent and dispose of rinse water into sink.
- c. Recycle vehicle fluids and all hazardous materials.
- d. If recycling is not possible, all wastes should be properly disposed of as required by all State and Federal regulations.
- e. Clean all vehicle parts in approved containment/recycling system (see section 5, Parts Cleaning).
- f. Clean up all spills immediately (see section 2, Spill Response).

## 5. Parts Cleaning

Applicable Rule:        Protection of the Waters of the State  
                                      (Surface and Ground Water)

Solvents used to clean parts are regulated under State and Federal laws. The discharge of solvents to Waters of the State (surface water or ground water) is a direct violation of the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), and other laws. Solvents must be used and stored in a manner to eliminate discharges to water, soil, or air. Used non-solvent cleaners should be disposed of as waste to prevent the discharge of grease, oil, and metals to the environment.

### Compliance:

- a: Implement a waste minimization program if possible. By reducing the amount of solvents and degreasers used, it is possible to save money and reduce the possibility of discharges to the environment.
- b: Use self-contained parts washers, which include a storage drum, collection basins, solvent sprayers, splash guards (and in some cases, fume hoods). These washers are leased by companies that will pick up spent solvents and deliver fresh solvents.
- c: All parts should be cleaned in one area set aside for this purpose. This area should be away from any storm sewer and sanitary sewer drains.
- d: It may be practical for companies that use large volumes of solvents to treat the solvent on site for reuse. Concentrated waste water from the recycling process should be tested and disposed of in accordance with all applicable rules and regulations. (On-site recyclers may be subject to California Environmental Protection Agency (Cal EPA) Permit-by-Rule regulations.)

## 6. Changing Vehicle Fluids

Applicable Rule:        Protection of the Waters of the State  
                                      (Surface and Ground Water)

Vehicle fluids are not to be discharged to the sanitary sewer or storm sewer systems. Waste fluids spilled outside, even when they are promptly cleaned up, may mobilize during storms and enter the storm sewer system.

### Compliance:

- a: All vehicle fluid changing should be conducted inside when possible.

- b: When circumstances prevent indoor maintenance (e.g., the maintenance of large equipment), non-permeable tarps or drip pans should be used.
- c: Special outdoor maintenance areas can be constructed which slope away from storm drains and into containment areas to facilitate cleanup in the event of a fluid spill.
- d: Purchase or fabricate fluid transfer equipment (e.g., oversized drip pans, drain caddies with funnels and pumps, or pump extraction equipment) that will reduce the chance of spills during transfer. The equipment selected should be specific for the site and need.
- e: Place spill response equipment nearby when transferring fluids.
- f: Depressurize all pressurized fluid systems (e.g., hydraulic systems or pressurized coolant systems) prior to beginning any repair work.

## 7. Leaking Vehicles

Applicable Rule:        Protection of the Waters of the State  
                                      (Surface and Ground Water)

Vehicle fluids are not to be discharged to the sanitary sewer or storm sewer systems. Waste fluids spilled outside, even when they are promptly cleaned up, may mobilize during storms and enter the storm sewer system.

### Compliance:

- a: Place drip pans under leaking vehicles and restrict use until vehicle is repaired.
- b: Designate parking spaces for all equipment so sources of leaking equipment can be determined.
- c: Promptly clean up any spilled fluids.
- d: Repair leaking equipment within 24 hours of leak detection (except when parts are not available).



## 8. Secondary Containment of Hazardous Materials

Applicable Rule:        Protection of the Waters of the State  
                                      (Surface and Ground Water)

Vehicle fluids are not to be discharged to the sanitary sewer or storm sewer systems. Waste fluids spilled outside, even when they are promptly cleaned up, may mobilize during storms and enter the storm sewer system. Secondary containment of waste fluids and proper storage of chemical supplies will help reduce the chance of discharges to the environment. State and Federal laws require secondary containment for storage of hazardous wastes, used oil, or hazardous materials stored in USTs, as well as the preparation of Spill Prevention Control and Countermeasure (SPCC) plans if (1) hazardous wastes are stored or (2) if oil is stored and any of the following three conditions are met: the underground buried storage capacity of the facility is greater than 42,000 gallons of oil; the storage capacity, which is not buried, is greater than 1,320 gallons of oil; or a single aboveground container has a capacity in excess of 660 gallons.

Secondary containment should be provided for used batteries. Used batteries should be placed in plastic containers until the batteries can be picked up by a battery service. New batteries should be stored in an earthquake-safe manner (i.e., stored away from the edge of shelves, use shelves equipped with restraining straps, etc.). New or used batteries should never be stored outside.

### Compliance:

- a: Purchase appropriate secondary containment for the amount of waste or stock chemicals stored on site. Secondary containment equipment comes in many designs. An inexpensive system (used by the Port of Oakland) consists of a polyethylene tub capable of holding four 55-gallon barrels. The tub has a sliding cover to allow outdoor storage. Other systems consist of steel pallets with containment or even specialized storage sheds with containment floors, material dispensers, ventilation, lighting, ramps, and fire suppression equipment. When purchasing secondary containment, follow these rules:
- The containment must hold 110% of the material in one container (if all are the same size), 150% of the volume of the largest container, or 10% of the total volume of all the containers within the containment.
  - Make sure that the material that the containment is made of is compatible with the stored wastes (e.g., acids, solvents etc.)
  - Allow for proper ventilation.

- b: An alternative to pre-fabricated containments is to construct a containment area using impermeable materials and berms (asphalt or concrete are acceptable if there are no cracks). The area and berms should be designed to hold 10% of the maximum amount of material that could be stored within the area. If this area is constructed outside, the containment area should have a roof to prevent the containment from filling with rain water.
- c: Any spills within the secondary containment should be cleaned up promptly. **NOTE: OVERPACK DRUMS ARE NOT SECONDARY CONTAINMENT.**

## 9. Vehicle Washing and Steam Cleaning

Applicable Rule:        Protection of the Waters of the State  
                                      (Surface and Ground Water)

Vehicle wash water is not to be discharged to the storm sewer system. Wash water may be discharged to the sanitary sewer under the conditions outlined below.

### Compliance:

- a: Never discharge vehicle exterior, undercarriage, or engine wash water or steam cleaning residues to the storm sewer system.
  - b: Where possible, construct a vehicle washing area that can recycle wash water or can discharge wash water to the sanitary system under approved conditions:
    - Use only biodegradable detergents.
    - Ensure that no storm water can enter the sanitary sewer drainage system.
    - Steam clean only if there is:
      - 1. A grease trap attached to the sanitary sewer drainage system, OR
      - 2. No solvents are used as part of the steam cleaning process.
- In addition:
- 3. The discharge must be approved by EBMUD, OR
  - 4. The discharge must drain into a holding tank and be disposed of as wastes instead of to the sanitary system.

- c: Contract with a vehicle washing service that can recycle wash water or will dispose of wash water in an approved manner.
- d: Rinsing of vehicle exteriors WITH WATER ONLY for appearances IS PERMITTED for discharge to storm sewers.
- e: NOTE: Steam-cleaning wastes, or rinse water using degreasers often have high levels of hydrocarbon residues and metals. Engine and undercarriage rinse water may be considered a hazardous waste. Testing of rinse water may be required by State and Local regulators.

## 10. Vehicle Fueling

Applicable Rule:        Protection of the Waters of the State  
                                       (Surface and Ground Water)

Vehicle fueling must be done in a manner to reduce spills and discharges to the storm and sanitary sewer systems.

### Compliance:

- a: Operating instructions shall be posted at each fueling facility with emergency phone numbers.
- b: An attendant will always be present during any fueling or fuel transferring operations.
- c: Topping off is strictly prohibited.
- d: Fuel will not be stored in buckets, open drums, or any other open containers.
- e: Follow all procedures as outlined in the Underground Storage Tank Operating Permit Application and Monitoring, Spill Prevention and Emergency Response Plan. All Port of Oakland tenants with Port-owned tanks have a copy for their facility (See Appendix B).
- f: Spill cleanup equipment will be located near the fueling facility and be readily available to trained personnel (See Section 2).
- g: Only trained personnel shall operate mobile fueling facilities (tank trucks), and spill response equipment will be maintained on all mobile fueling sources.
- h: A low berm can be constructed around any storm drains within the watershed that drains the fueling area.



## 11. Maintaining Records

Applicable Rule:      Requirement Under General Industrial Storm Water NPDES Permit and the California Code of Regulations

Records of all employee training, storm sewer inspections, hazardous waste disposal, site spills, and storm sewer maintenance cleaning (yearly) must be kept on-site.

### Compliance:

- a: Maintain records of all employee training including:
  - Hazardous Materials awareness training
  - Spill cleanup procedures
  - Storm water pollution education
- b: Maintain records of storm sewer inspections (see attached forms). Storm sewers should be visually inspected at least once per month for dry season discharges, oil sheen, or petroleum odors.
- c: Maintain records of the yearly storm sewer cleaning including:
  - 1. What material was removed (sediment, plastic, etc.).
  - 2. Was the material contaminated, and if so, what was the contaminant?
  - 3. What was the final disposition of any contaminated material?
- d: Maintain a record and disposal manifests for all hazardous waste disposal
- e: Maintain a record of all spills that occur outside. Small spills (a few gallons) or leaking vehicles do not need to be logged as long as they are promptly cleaned. Spill logs should include:
  - 1. What was spilled and approximately how much.
  - 2. What was done to respond and who was notified.

**PORT OF OAKLAND**  
**INSPECTION REPORT**  
**VEHICLE SERVICE FACILITIES**

Inspected By: \_\_\_\_\_

Date: \_\_\_\_\_

Tenant Representative

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

**GENERAL INFORMATION**

1. FACILITY NAME: \_\_\_\_\_
2. FACILITY ADDRESS: \_\_\_\_\_
3. MAILING ADDRESS (IF DIFFERENT): \_\_\_\_\_
4. CONTACT PERSON: \_\_\_\_\_  
TITLE: \_\_\_\_\_
5. PHONE NUMBER: \_\_\_\_\_
6. PRIMARY BUSINESS ACTIVITY: \_\_\_\_\_  
\_\_\_\_\_

**SUBCATEGORIES:**

general repair: \_\_\_\_\_

radiator repair: \_\_\_\_\_

dip washing: \_\_\_\_\_

engine cleaning: \_\_\_\_\_

body repair: \_\_\_\_\_

fleet operations: \_\_\_\_\_

fuel dispensing: \_\_\_\_\_

exterior vehicle washing: \_\_\_\_\_

machining: \_\_\_\_\_

salvage/wrecking: \_\_\_\_\_

painting: \_\_\_\_\_

## SITE-SPECIFIC REQUIREMENTS FOR VEHICLE SERVICE FACILITIES

The following is a list of site-specific requirements as described on page 2 of the *Port of Oakland Group Storm Water Pollution Prevention Program*. Circle the appropriate response (Yes, No, N/A) and add comments as necessary.

### 1. HAZARDOUS MATERIALS BUSINESS PLAN

|     |    |     |  |
|-----|----|-----|--|
| Yes | No | N/A | Does the facility have a Hazardous Materials Business Plan that includes a list of all hazardous materials and the approximate amounts used on-site? |
|-----|----|-----|--|

\_\_\_\_\_

### 2. SITE MAP

|     |    |     |  |
|-----|----|-----|--|
| Yes | No | N/A | Does the facility have a site map, including the following information:_____ |
| Yes | No | N/A | site boundaries:_____  |
| Yes | No | N/A | all buildings:_____  |
| Yes | No | N/A | all storm drains:_____   |
| Yes | No | N/A | all fueling facilities:_____   |
| Yes | No | N/A | all maintenance areas:_____  |
| Yes | No | N/A | all vehicle washing areas:_____  |
| Yes | No | N/A | all grease trap locations :_____   |
| Yes | No | N/A | any other pertinent information:_____  |

### 3. SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

|     |    |     |  |
|-----|----|-----|--|
| Yes | No | N/A | If an SPCC plan is required, has one been prepared?_____ |
|-----|----|-----|--|

### 4. RECORDS OF SPILLED MATERIALS AND TRAINING

|     |    |     |   |
|-----|----|-----|---|
| Yes | No | N/A | Has a record of all spills been kept since 1988?_____ |
|-----|----|-----|---|

\_\_\_\_\_

|     |    |     |   |
|-----|----|-----|---|
| Yes | No | N/A | Have records been maintained regarding employee training on hazardous materials, spill response, and storm water education? See also Maintaining Records in the Generic Requirements, Section 11 (page 5)._____ |
|-----|----|-----|---|

\_\_\_\_\_



## GENERIC REQUIREMENTS FOR VEHICLE SERVICE FACILITIES

The following are generic requirements as described on pages 5 through 15 of the *Port of Oakland Group Storm Water Pollution Prevention Program* for vehicle service facilities. Circle the appropriate response (yes, no, N/A) and add comments as necessary.

### 1. STORM DRAIN PROTECTION (PAGES 5 AND 6)

|     |    |     |   |
|-----|----|-----|---|
| Yes | No | N/A | Is there dry weather protection? _____  |
| Yes | No | N/A | Is the area around the storm drain free from evidence of recent spills or staining? _____ |
| Yes | No | N/A | Are all storm drains labeled? _____   |
| Yes | No | N/A | Has the annual cleaning been completed? If no, when? _____                                |

### 2. SPILL RESPONSE (PAGES 6 and 7)

|     |    |     |   |
|-----|----|-----|---|
| Yes | No | N/A | Is a spill response plan in place? If no, when? _____   |
| Yes | No | N/A | Have all reportable spilled quantities been properly documented (as per the spill response plan)? _____ |
| Yes | No | N/A | Are spills cleaned up immediately? _____  |
| Yes | No | N/A | Is proper spill response equipment present? _____   |
| Yes | No | N/A | Is spill response equipment easily accessible in work area? _____                                       |

### 3. SANITARY SEWER PROTECTION (PAGES 7 and 8)

|     |    |     |   |
|-----|----|-----|---|
| Yes | No | N/A | Is there a preventive maintenance schedule for inspection, cleaning, and proper disposal of grease traps? _____ |
| Yes | No | N/A | Is the area around the sanitary sewer free from evidence of recent spills or staining? _____                    |

### 4. FLOOR DRAINS (PAGES 8 and 9)

|     |    |     |  |
|-----|----|-----|--|
| Yes | No | N/A | Are all floor drains within the maintenance area(s) plugged? _____                       |
| Yes | No | N/A | Has a permit been obtained for any unplugged floor drains? _____                         |
| Yes | No | N/A | Are proper floor cleaning methods as per the SWPPP used (i.e., swept then mopped)? _____ |

## 5. PARTS CLEANING (PAGE 9)

Yes No N/A Is a waste minimization program in place? \_\_\_\_\_  
Yes No N/A Is a self-contained parts washer present? Describe \_\_\_\_\_  
Yes No N/A Is the parts washer location acceptable? \_\_\_\_\_

## 6. CHANGING VEHICLE FLUIDS (PAGE 10)

Yes No N/A Is fluid changing conducted inside? If no, where? \_\_\_\_\_  
Yes No N/A Are drip pans used if outdoor fluid changes are required? \_\_\_\_\_  
Yes No N/A Is the fluid transfer equipment designed to reduce the chance of spills during transfer to recycling or disposal containers? \_\_\_\_\_  
Yes No N/A Are all pressurized fluid systems de-pressurized prior to beginning work? \_\_\_\_\_

## 7. LEAKING VEHICLES (PAGES 10 and 11)

Yes No N/A Do leaking vehicles/equipment have drip pans? \_\_\_\_\_  
Yes No N/A Have parking spaces been designated for all vehicles/equipment? \_\_\_\_\_  
Yes No N/A Are leaking vehicles/equipment repaired within 24 hours? \_\_\_\_\_

## 8. SECONDARY CONTAINMENT OF HAZARDOUS MATERIALS (PAGES 11 and 12)

Yes No N/A Has a Spill Prevention Control and Countermeasures Plan been prepared for aboveground storage areas with a capacity of more than 660 gallons in a single container or 1,320 gallons in combined containers of fuels? \_\_\_\_\_  
Yes No N/A Is the secondary containment adequate to contain 110% of one container (if all containers are alike) or 150% of the volume of the largest container? \_\_\_\_\_  
Yes No N/A Is the secondary containment material compatible with the stored wastes? \_\_\_\_\_  
Yes No N/A Are only compatible materials stored together? \_\_\_\_\_  
Yes No N/A Is the secondary containment in good condition? \_\_\_\_\_  
Yes No N/A Is the secondary containment properly covered? \_\_\_\_\_  
Yes No N/A Does the secondary containment area have adequate ventilation? \_\_\_\_\_

## 9. VEHICLE WASHING AND STEAM CLEANING (PAGES 12 and 13)

|     |    |     |   |
|-----|----|-----|---|
| Yes | No | N/A | Is vehicle washing done on-site?_____                             |
| Yes | No | N/A | Are only biodegradable soaps or water only used?_____             |
| Yes | No | N/A | Is equipment/engine steam cleaning done on-site?_____             |
| Yes | No | N/A | Is the wash area approved and permitted?_____                     |
| Yes | No | N/A | Does the wash area have an approved sump?_____                    |
| Yes | No | N/A | Is the wash area drain secure from the entry of storm water?_____ |

## 10. VEHICLE FUELING (PAGES 13 and 14)

|     |    |     |   |
|-----|----|-----|---|
| Yes | No | N/A | Are proper operating instructions posted at the fueling facility?_____                            |
| Yes | No | N/A | Is an attendant always present during fueling activities?_____                                    |
| Yes | No | N/A | Is fuel being stored properly (i.e., not in buckets, drums or open containers)?_____              |
| Yes | No | N/A | Is spill cleanup equipment located next to the fueling area?_____                                 |
| Yes | No | N/A | For mobile fueling activities, are only trained personnel operating the refueling equipment?_____ |

## 11. MAINTAINING RECORDS (PAGES 14 and 15)

|     |    |     |   |
|-----|----|-----|---|
| Yes | No | N/A | Have employee training records been maintained? including the following:_____               |
| Yes | No | N/A | Hazardous materials awareness training?_____  |
| Yes | No | N/A | Spill cleanup procedures?_____  |
| Yes | No | N/A | Storm water pollution prevention education?_____  |
| Yes | No | N/A | Have records of storm drain inspections been maintained?_____                               |
| Yes | No | N/A | Have records of yearly storm drain clean-out been maintained? including the following:_____ |
| Yes | No | N/A | Wastes removed?_____  |
| Yes | No | N/A | If the waste was contaminated, was the waste disposed of properly?_____                     |
| Yes | No | N/A | Have all hazardous waste manifests been retained?_____                                      |
| Yes | No | N/A | Have all spills been recorded (including the following information?):_____                  |
| Yes | No | N/A | Material spilled and how much?_____   |
| Yes | No | N/A | What was done to respond and who was notified?_____   |



**ADDITIONAL COMMENTS:**

**PORT OF OAKLAND  
INSPECTION REPORT (OPTIONAL\*)**

| CLEANING ACTIVITIES             |                 |   |  |                                       |          |
|---------------------------------|-----------------|---|--|---------------------------------------|----------|
| Activity                        | Number          | Type of cleaning material used<br>(e.g., water, steam, solvent, heat,<br>dry abrasives, alkali cleaner, etc.) | Waste Handling<br>(e.g., sanitary sewer, shipped for<br>disposal, recycled, on-site reuse, etc.) | Sewer Use<br>Permit?<br>Yes / No / NA | Comments |
| <b>I. Parts Cleaning</b>        | <b>Units</b>    |   |  |                                       |          |
| a. Sink(s) (e.g., solvent)      |                 |   |  |                                       |          |
| b. Spray cans                   |                 |   |  |                                       |          |
| c. Hot tank(s)                  |                 |   |  |                                       |          |
| d. Steam cleaner(s)             |                 |   |  |                                       |          |
| e. Jet sprayer(s)               |                 |   |  |                                       |          |
| f. Mechanical cleaning          |                 |   |  |                                       |          |
| g. other                        |                 |   |  |                                       |          |
| h. other                        |                 |   |  |                                       |          |
| i. other                        |                 |   |  |                                       |          |
| <b>II. Engine/Undercarriage</b> | <b>#/day</b>    |   |  |                                       |          |
| a. Engines                      |                 |   |  |                                       |          |
| b. Undercarriages               |                 |   |  |                                       |          |
| <b>III. Vehicle Washing</b>     | <b>Veh./day</b> |   |  |                                       |          |
|                                 |                 |   |  |                                       |          |

\* Optional information sheet to be used at the discretion of the Port auditing personnel

**PORT OF OAKLAND  
INSPECTION REPORT (OPTIONAL\*)**

| <b>OTHER ACTIVITIES</b>             |                         |   |   |                 |
|-------------------------------------|-------------------------|---|---|-----------------|
| <b>Activity</b>                     | <b>Activity present</b> | <b>Waste Handling</b><br>(e.g., sanitary sewer, shipped for disposal, recycled, on-site reuse, treatment, etc.) | <b>Sewer Use Permit?</b><br>Yes / No / NA | <b>Comments</b> |
| <b>I. Fluid removal/replacement</b> |                         |   |   |                 |
| a. Radiator fluid                   |                         |   |   |                 |
| b. Motor oil                        |                         |   |   |                 |
| c. Transmission fluid               |                         |   |   |                 |
| d. Hydraulic fluid                  |                         |   |   |                 |
| e. Differential lubricant           |                         |   |   |                 |
| f. Refrigerant                      |                         |   |   |                 |
| <b>II. Radiator Repair</b>          |                         |   |   |                 |
| a. Boil out tank                    |                         |   |   |                 |
| b. Flush booth waste                |                         |   |   |                 |
| c. Test tank waste                  |                         |   |   |                 |
| d. Other                            |                         |   |   |                 |
| <b>III. Battery Replacement</b>     |                         |   |   |                 |
| <b>IV. Body shop waste</b>          |                         |   |   |                 |
| a. Thinner/Paint                    |                         |   |   |                 |
| b. Other                            |                         |   |   |                 |
| c. Other                            |                         |   |   |                 |
| <b>V. Machining</b>                 |                         |   |   |                 |
| <b>VI. Wrecking/Salvaging</b>       |                         |   |   |                 |
| <b>VII. Other</b>                   |                         |   |   |                 |
|                                     |                         |   |   |                 |
|                                     |                         |   |   |                 |

\* Optional information sheet to be used at the discretion of the Port auditing personnel



## **Appendix B**

### **Tenants in the Port of Oakland Marine Terminals Sub-Group**



## Tenants in the Port of Oakland Marine Terminals Sub-Group

**Note:** SIC Codes, Industrial Activities, and designated responsible parties for these facilities were provided with letters to the Port confirming intent to participate in the Group Storm Water Pollution Prevention Plan.

American President Lines  
1395 Middle Harbor Road  
Oakland, CA 94607  
Mark Yamamoto  
(510) 272-3921

SIC Code 4412  
Vehicle Maintenance and Storage

Berkeley/Oakland Ready Mix Company  
491 Embarcadero  
Oakland, CA 94606  
Robert Branstad  
Manager  
(510) 526-1611

SIC Code 3273  
Manufacturing  
Vehicle Maintenance

International Transportation Services, Inc.  
TransBay Container Terminal, Inc.  
707 Ferry Street  
Oakland, CA  
Bill Walker  
Supervisor, Safety & Loss Control  
(510) 839-8228

SIC Codes 3799, 4491  
Vehicle Maintenance

Keep on Trucking  
370 8th Avenue  
Oakland, CA  
Richard Padovani  
Terminal Manager  
(510) 893-6011

SIC Code 4214  
Vehicle Maintenance  
Material Handling

Maersk Line Terminal  
909 & 700 Ferry Street  
Oakland, CA  
Nick J. La Rocco  
Marine Operations Superintendent  
(510) 835-7500

SIC Codes 4412, 4424, 4491  
Material Handling



Marine Terminals Corporation  
Seventh Street Public Container Terminal  
90 Seventh Street  
Oakland, CA  
Bruce Elerick, R.E.A.  
Manager, Safety & Security  
(510) 645-1458

SIC Code 4491  
Vehicle Maintenance, Stevedoring

Matson Terminals, Inc. SIC Code 4463  
Oakland Terminal  
3050 Seventh Street  
Oakland, CA  
G. N. Garvey  
F&M Manager  
(510) 271-9826

Material Storage and Handling  
Vehicle Maintenance

Military Traffic Management  
Command Western Area  
Oakland Army Base  
Oakland, CA  
Glenna M. Eiermann  
Environmental Engineer  
(510) 466-2293

SIC Codes 4491, 4731, 4783  
Material Storage and Handling  
Vehicle Maintenance and Storage

Sea Land Services, Inc. SIC Codes 4412, 4424  
1425 Maritime Street  
Oakland, CA  
Shirley Kennedy  
Loss Prevention & Safety Supervisor  
(510) 271-1294

Vehicle Maintenance  
Material Handling

Stevedoring Services of America  
Howard Container Terminal  
1 Market Street  
Oakland, CA  
Sandi Lira  
(510) 238-4400

SIC Code 4190  
Vehicle Maintenance

Stevedoring Services of America  
Berth 23  
1195 Maritime Street  
Oakland, CA 94607  
Jacques Lira  
Terminal Manager  
(510) 419-1800

SIC Code 4190  
Vehicle Maintenance

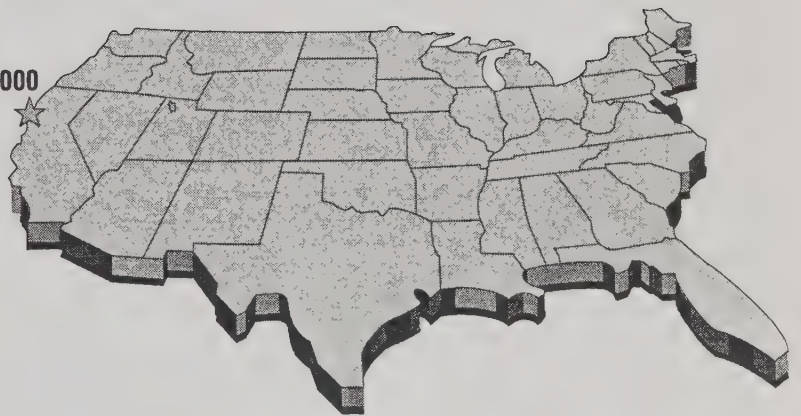
Trans Pacific Container Service Corporation  
5100 Seventh Street  
Oakland, CA  
Terry W. Murphey  
Maintenance & Repair Manager  
(510) 834-0680

SIC Codes 4412, 4424  
Material Handling and Storage  
Vehicle Maintenance and Storage

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**FISCO/Vision 2000**



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## APPENDIX J TRAFFIC AND CIRCULATION

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*See Table of Contents within Appendix J.2*

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*See Table of Contents within Appendix J.3*

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## **Appendix J.1**

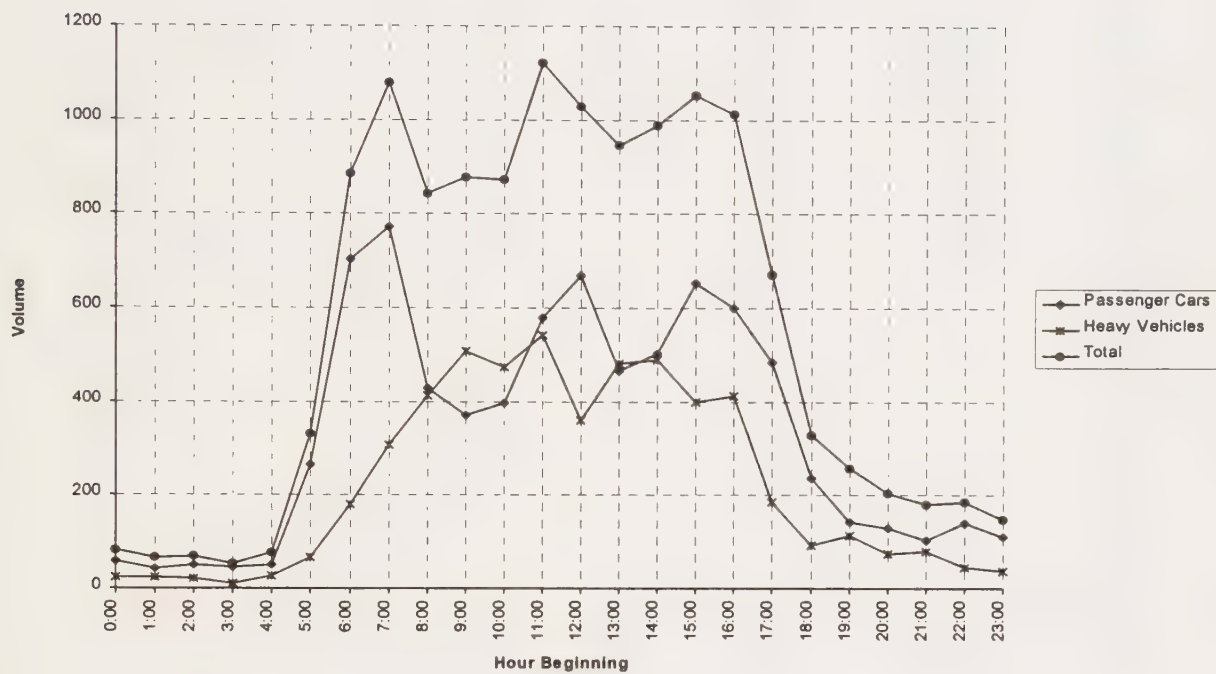
### **Existing Traffic Data**





**Figure J.1-1**

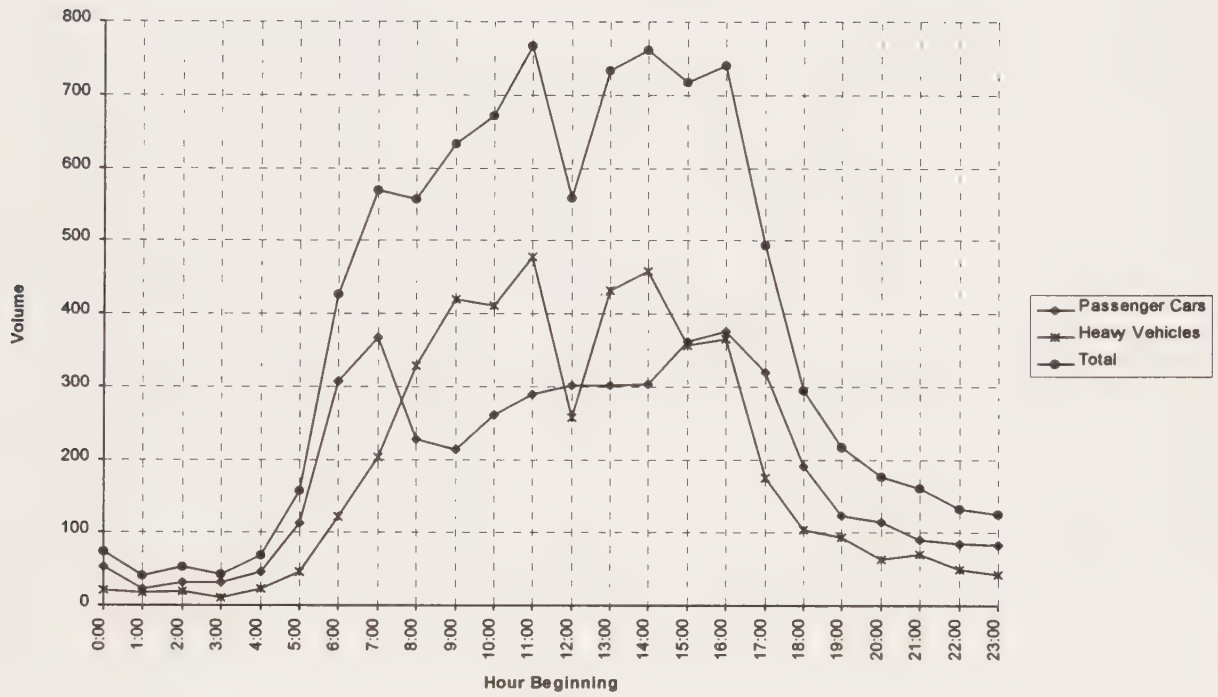
**Traffic on Middle Harbor Rd. South of 3rd Street**



Traffic counts collected on June 6, 1996, by Wiltec.

**Figure J.1-2**

**Traffic on 7th St. Extension**



Traffic counts collected on June 6, 1996, by Wiltec.

Table J.1-1

**FISCO/Port Vision 2000 EIS/EIR**  
**Employment for Lease Areas 4 & 5**

| Tennant              | Total FISCO Employment |              | Percent in Lease Areas 4 & 5 | FISCO Employment in L.A. 4 & 5 |              |
|----------------------|------------------------|--------------|------------------------------|--------------------------------|--------------|
|                      | 1990                   | 1996         |                              | 1990                           | 1996         |
| AFGE                 | 2                      | 1            | 100%                         | 2                              | 1            |
| Coast Guard          | 1                      | 1            | 100%                         | 1                              | 1            |
| Combat Log Gru 1     | 96                     | 41           | 100%                         | 96                             | 41           |
| DDOC                 | 571                    | 4            | 90%                          | 514                            | 4            |
| DECA                 | 62                     | 4            | 100%                         | 62                             | 4            |
| DFAS                 | 0                      | 183          | 100%                         | 0                              | 183          |
| DISA                 | 0                      | 7            | 100%                         | 0                              | 7            |
| DPSDO                | 38                     | 21           | 100%                         | 38                             | 21           |
| FAADCPAC             | 4                      | 1            | 100%                         | 4                              | 1            |
| Federal Credit Union | 10                     | 6            | 100%                         | 10                             | 6            |
| FISC                 | 780                    | 290          | 100%                         | 780                            | 290          |
| ISSOT                | 10                     | 8            | 40%                          | 4                              | 3            |
| JMSDF                | 1                      | 1            | 100%                         | 1                              | 1            |
| MSCPAC               | 455                    | 442          | 95%                          | 432                            | 420          |
| NAVMTO               | 6                      | 0            | 100%                         | 6                              | 0            |
| NAVSEA               | 2                      | 0            | 0%                           | 0                              | 0            |
| Navy Audit           | 1                      | 0            | 100%                         | 1                              | 0            |
| Navy Exchange        | 5                      | 3            | 100%                         | 5                              | 3            |
| NCIS                 | 9                      | 0            | 100%                         | 9                              | 0            |
| NEX Fit Asst Team    | 0                      | 0            | 0%                           | 0                              | 0            |
| NRPEO                | 42                     | 54           | 100%                         | 42                             | 54           |
| NTCC                 | 37                     | 20           | 100%                         | 37                             | 20           |
| Post Office          | 1                      | 1            | 100%                         | 1                              | 1            |
| PWCSFB               | 976                    | 290          | 90%                          | 878                            | 261          |
| ROICC                | 0                      | 16           | 100%                         | 0                              | 16           |
| VOA                  | 156                    | 73           | 50%                          | 78                             | 37           |
| USNS A.J. Higgins*   | 117                    | 58           | 100%                         | 117                            | 58           |
| USNS Kawishiwi*      | 127                    | 63           | 100%                         | 127                            | 63           |
| USNS Mercy*          | 106                    | 52           | 100%                         | 106                            | 52           |
| USNS Observation*    | 60                     | 30           | 100%                         | 60                             | 30           |
| USS Kansas City*     | 479                    | 236          | 100%                         | 479                            | 236          |
| USS Wichita*         | 479                    | 236          | 100%                         | 479                            | 236          |
| USS class*           | 479                    | 236          | 100%                         | 479                            | 236          |
| USS class*           | 479                    | 236          | 100%                         | 479                            | 236          |
| <b>TOTAL</b>         | <b>5,591</b>           | <b>2,614</b> |                              | <b>5,327</b>                   | <b>2,522</b> |

\* 1996 employment per ship in port was based on average reductions for all ships served.

SOURCES: Personnel Data from Marty Wolf of Radian International, Sacramento, and Ed Guldner of FISCO on June 19, 1996.



Table J.1-2

**FISCO/Port Vision 2000 EIS/EIR**  
**Trip Generation for FISCO**

| FISCO Access Location                          | Employees    | AM Peak Hour |      |       | PM Peak Hour |      |       |
|--|--------------|--------------|------|-------|--------------|------|-------|
|  |              | In           | Out  | Total | In           | Out  | Total |
| Maritime/7th Extension<br>Non-Truck Traffic    |              | 522          | 111  | 633   | 117          | 319  | 436   |
| Middle Harbor/Gate 2<br>Total Traffic          |              | 414          | 128  |       | 261          | 449  |       |
| % Non-Trucks                                   |              | 87%          | 43%  |       | 23%          | 78%  |       |
| Non-Truck Traffic                              |              | 360          | 55   | 415   | 60           | 350  | 410   |
| Total Non-Truck Traffic                        |              | 882          | 166  | 1,048 | 177          | 669  | 846   |
| Employees<br>FISCO                             |              |              |      |       |              |      |       |
| Lease Areas 1, 2, & 3                          | 92           |              |      |       |              |      |       |
| Lease Areas 4 & 5                              | <u>2,522</u> |              |      |       |              |      |       |
| Total  | 2,614        |              |      |       |              |      |       |
| Port - Lease Areas 1-3                         | <u>500</u>   |              |      |       |              |      |       |
| Total Employees                                | 3,114        |              |      |       |              |      |       |
| Trips per Employee                             |              | 0.28         | 0.05 | 0.33  | 0.06         | 0.21 | 0.27  |
| ITE Trip Generation<br>Military Base (ITE 501) |              | -            | -    | 0.39  | -            | -    | 0.39  |

Table J.1-3

**FISCO/Port Vision 2000 EIS/EIR**  
**VEHICLE TYPES**  
**GATE 2 - FISCO ACCESS AT MIDDLE HARBOR ROAD**

| Hour<br>Beginning | Inbound                           |                                  |                             |                             |                            |       | Outbound                          |                                  |                             |                             |                            |       |
|-------------------|-----------------------------------|----------------------------------|-----------------------------|-----------------------------|----------------------------|-------|-----------------------------------|----------------------------------|-----------------------------|-----------------------------|----------------------------|-------|
|                   | Cars,<br>Pickups &<br>Motorcycles | Single Unit<br>Trucks &<br>Buses | Single<br>Trailer<br>Trucks | Multi-<br>Trailer<br>Trucks | Total<br>Heavy<br>Vehicles | Total | Cars,<br>Pickups &<br>Motorcycles | Single Unit<br>Trucks &<br>Buses | Single<br>Trailer<br>Trucks | Multi-<br>Trailer<br>Trucks | Total<br>Heavy<br>Vehicles | Total |
| 7:00              | 309                               | 35                               | 11                          | 1                           | 47                         | 356   | 44                                | 34                               | 23                          | 1                           | 58                         | 102   |
| 8:00              | 182                               | 40                               | 43                          | 0                           | 83                         | 265   | 56                                | 88                               | 34                          | 1                           | 123                        | 179   |
| 9:00              | 97                                | 46                               | 81                          | 1                           | 128                        | 225   | 85                                | 108                              | 53                          | 0                           | 161                        | 246   |
| 10:00             | 121                               | 57                               | 70                          | 2                           | 129                        | 250   | 89                                | 51                               | 59                          | 4                           | 114                        | 203   |
| 16:00             | 39                                | 70                               | 63                          | 1                           | 134                        | 173   | 270                               | 28                               | 47                          | 0                           | 75                         | 345   |

Traffic counts collected on June 6, 1996, by Wiltec.

Table J.1-4

**FISCO/Port Vision 2000 EIS/EIR  
VEHICLE PERCENTAGES  
GATE 2 - FISCO ACCESS AT MIDDLE HARBOR ROAD**

| Period        | Inbound                           |                                  |                             |                             |                            | Outbound                          |                                  |                             |                             |                            |
|---------------|-----------------------------------|----------------------------------|-----------------------------|-----------------------------|----------------------------|-----------------------------------|----------------------------------|-----------------------------|-----------------------------|----------------------------|
|               | Cars,<br>Pickups &<br>Motorcycles | Single Unit<br>Trucks &<br>Buses | Single<br>Trailer<br>Trucks | Multi-<br>Trailer<br>Trucks | Total<br>Heavy<br>Vehicles | Cars,<br>Pickups &<br>Motorcycles | Single Unit<br>Trucks &<br>Buses | Single<br>Trailer<br>Trucks | Multi-<br>Trailer<br>Trucks | Total<br>Heavy<br>Vehicles |
| 07:00 - 08:00 | 87%                               | 10%                              | 3%                          | 0%                          | 13%                        | 43%                               | 33%                              | 23%                         | 1%                          | 57%                        |
| 08:00 - 09:00 | 69%                               | 15%                              | 16%                         | 0%                          | 31%                        | 31%                               | 49%                              | 19%                         | 1%                          | 69%                        |
| 09:00 - 10:00 | 43%                               | 20%                              | 36%                         | 0%                          | 57%                        | 35%                               | 44%                              | 22%                         | 0%                          | 65%                        |
| 10:00 - 11:00 | 48%                               | 23%                              | 28%                         | 1%                          | 52%                        | 44%                               | 25%                              | 29%                         | 2%                          | 56%                        |
| 16:00 - 17:00 | 23%                               | 40%                              | 36%                         | 1%                          | 77%                        | 78%                               | 8%                               | 14%                         | 0%                          | 22%                        |

Traffic counts collected on June 6, 1996, by Wiltec.

**Table J.1-5  
FISCO Employee Trip Distribution**

| Location                                   | Residency  | Commute Mode |                 |               | Auto Factor | Auto Trips |               | Route    | % of Employees Served by Each Route |           |            |            |            |            |
|--|------------|--------------|-----------------|---------------|-------------|------------|---------------|----------|-------------------------------------|-----------|------------|------------|------------|------------|
|  |            | Solo<br>1.00 | Carpool<br>0.47 | Other<br>0.00 |             | Number     | %             |          | I-80 E.                             | I-80 W.   | Rt. 24     | I-880      | I-580 E.   | Local      |
| N. Alameda (Oakland)                       | 313        | 74.6%        | 9.8%            | 12.4%         | 79.2%       | 248        | 34.1%         |          |                                     |           |            |            |            |            |
| S. Alameda (Hayward, Fremont)              | 119        | 78.6%        | 14.3%           | 7.1%          | 85.3%       | 101        | 14.0%         | I-580 E. |                                     |           |            |            | 14.0%      |            |
| E. Alameda (Pleasanton, Livermore)         | 10         | 80.0%        | 20.0%           | 0.0%          | 89.3%       | 9          | 1.2%          | I-580 E. |                                     |           |            |            | 1.2%       |            |
| E. Contra Costa (I-680)                    | 86         | 80.5%        | 15.9%           | 3.7%          | 87.9%       | 76         | 10.4%         | Rt. 24   |                                     |           | 10.4%      |            |            |            |
| W. Contra Costa (Richmond, I-80)           | 107        | 79.2%        | 17.0%           | 3.8%          | 87.1%       | 93         | 12.8%         | I-80 E.  | 12.8%                               |           |            |            |            |            |
| Santa Clara County                         | 15         | 73.3%        | 26.7%           | 0.0%          | 85.8%       | 13         | 1.8%          | I-880    |                                     |           |            | 1.8%       |            |            |
| San Francisco, San Mateo Counties          | 58         | 76.8%        | 7.1%            | 16.1%         | 80.1%       | 46         | 6.4%          | I-80 W.  |                                     | 6.4%      |            |            |            |            |
| Marin and Sonoma Counties                  | 14         | 100.0%       | 0.0%            | 0.0%          | 100.0%      | 14         | 1.9%          | I-80 E.  | 1.9%                                |           |            |            |            |            |
| Solano, Napa, Yolo, Sacto Counties         | 136        | 64.9%        | 33.6%           | 0.7%          | 80.6%       | 110        | 15.1%         | I-80 E.  | 15.1%                               |           |            |            |            |            |
| San Joaquin Valley & Outlying              | 17         | 87.5%        | 12.5%           | 0.0%          | 93.3%       | 16         | 2.2%          | I-580 E. |                                     |           |            |            | 2.2%       |            |
| <b>Total</b>                               | <b>875</b> |              |                 |               |             | <b>726</b> | <b>100.0%</b> |          |                                     |           |            |            |            |            |
| <b>Oakland Details (from Truck Survey)</b> |            |              |                 |               |             |            |               |          |                                     |           |            |            |            |            |
| Civic Center                               | 11         |              |                 |               |             |            | 1.2%          | I-880    |                                     |           |            | 1.2%       |            |            |
| Dimond                                     | 15         |              |                 |               |             |            | 1.7%          | I-580 E. |                                     |           |            |            | 1.7%       |            |
| Elmwood                                    | 72         |              |                 |               |             |            | 8.1%          | I-880    |                                     |           |            | 8.1%       |            |            |
| Fruitvale                                  | 69         |              |                 |               |             |            | 7.7%          | I-880    |                                     |           |            | 7.7%       |            |            |
| Grand Lake                                 | 3          |              |                 |               |             |            | 0.3%          | Local    |                                     |           |            |            |            | 0.3%       |
| Laurel                                     | 4          |              |                 |               |             |            | 0.4%          | Local    |                                     |           |            |            |            | 0.4%       |
| Mills College                              | 2          |              |                 |               |             |            | 0.2%          | Local    |                                     |           |            |            |            | 0.2%       |
| North Oakland                              | 17         |              |                 |               |             |            | 1.9%          | Local    |                                     |           |            |            |            | 1.9%       |
| San Antonio                                | 71         |              |                 |               |             |            | 7.9%          | Local    |                                     |           |            |            |            | 7.9%       |
| West Oakland                               | 41         |              |                 |               |             |            | 4.6%          | Local    |                                     |           |            |            |            | 4.6%       |
| <b>Subtotal %</b>                          | <b>305</b> |              |                 |               |             |            | <b>34.1%</b>  |          |                                     |           |            |            |            |            |
|  |            |              |                 |               |             |            |               |          |                                     |           |            |            |            |            |
| <b>Total %</b>                             |            |              |                 |               |             |            |               |          | <b>30%</b>                          | <b>6%</b> | <b>10%</b> | <b>19%</b> | <b>19%</b> | <b>15%</b> |

**SOURCES:**

*Fleet & Industrial Supply Center (158-1) employee Transportation Survey Results (BAAQMD, 1994)*

*Truck Survey - Marine Terminals and Railroad Intermodal Yards (Port of Oakland, 1993).*



**Table J.1-6  
Port of Oakland Employee Trip Distribution**

| Location                      | Residency   |               | Route    | % of Employees Served by Each Route |            |           |            |            |            |
|-------------------------------|-------------|---------------|----------|-------------------------------------|------------|-----------|------------|------------|------------|
|                               | Number      | %             |          | I-80 E.                             | I-80 W.    | Rt. 24    | I-880      | I-580 E.   | Local      |
| Oakland (see details below)   | 369         | 27.4%         |          |                                     |            |           |            |            |            |
| Alameda                       | 24          | 1.8%          | Local    |                                     |            |           |            |            | 1.8%       |
| Berkeley/Albany/Emeryville    | 22          | 1.6%          | I-80 E.  | 1.6%                                |            |           |            |            |            |
| San Leandro/San Lorenzo       | 89          | 6.6%          | I-880    |                                     |            |           | 6.6%       |            |            |
| Piedmont                      | 1           | 0.1%          | I-580 E. |                                     |            |           |            | 0.1%       |            |
| Hayward/Castro Valley         | 116         | 8.6%          | I-580 E. |                                     |            |           |            | 8.6%       |            |
| Fremont/Newark                | 38          | 2.8%          | I-880    |                                     |            |           | 2.8%       |            |            |
| Union City                    | 23          | 1.7%          | I-880    |                                     |            |           | 1.7%       |            |            |
| Dublin/Livermore/Pleasanton   | 13          | 1.0%          | I-580 E. |                                     |            |           |            | 1.0%       |            |
| San Pablo/Pinole/Rodeo        | 43          | 3.2%          | I-80 E.  | 3.2%                                |            |           |            |            |            |
| Richmond                      | 45          | 3.3%          | I-80 E.  | 3.3%                                |            |           |            |            |            |
| El Cerrito                    | 5           | 0.4%          | I-80 E.  | 0.4%                                |            |           |            |            |            |
| Pittsburg/Antioch             | 28          | 2.1%          | Rt. 24   |                                     |            | 2.1%      |            |            |            |
| Martinez/Concord              | 28          | 2.1%          | Rt. 24   |                                     |            | 2.1%      |            |            |            |
| Walnut Creek/Orinda/Lafayette | 8           | 0.6%          | Rt. 24   |                                     |            | 0.6%      |            |            |            |
| Alamo/Danville/San Ramon      | 5           | 0.4%          | Rt. 24   |                                     |            | 0.4%      |            |            |            |
| San Francisco                 | 111         | 8.3%          | I-80 W.  |                                     | 8.3%       |           |            |            |            |
| San Francisco Longshore *     | 112         | 8.3%          | I-80 W.  |                                     | 8.3%       |           |            |            |            |
| San Mateo County              | 80          | 5.9%          | I-80 W.  |                                     | 5.9%       |           |            |            |            |
| Santa Clara County            | 67          | 5.0%          | I-880    |                                     |            |           | 5.0%       |            |            |
| Marin County                  | 15          | 1.1%          | I-80 E.  | 1.1%                                |            |           |            |            |            |
| Napa/Sonoma Counties          | 20          | 1.5%          | I-80 E.  | 1.5%                                |            |           |            |            |            |
| Solano County                 | 83          | 6.2%          | I-80 E.  | 6.2%                                |            |           |            |            |            |
| <b>Total</b>                  | <b>1345</b> | <b>100.0%</b> |          |                                     |            |           |            |            |            |
| <b>Oakland Details</b>        |             |               |          |                                     |            |           |            |            |            |
| Civic Center                  | 11          | 1.0%          | I-880    |                                     |            |           | 1.0%       |            |            |
| Dimond                        | 15          | 1.3%          | I-580 E. |                                     |            |           |            | 1.3%       |            |
| Elmwood                       | 72          | 6.5%          | I-880    |                                     |            |           | 6.5%       |            |            |
| Fruitvale                     | 69          | 6.2%          | I-880    |                                     |            |           | 6.2%       |            |            |
| Grand Lake                    | 3           | 0.3%          | Local    |                                     |            |           |            |            | 0.3%       |
| Laurel                        | 4           | 0.4%          | Local    |                                     |            |           |            |            | 0.4%       |
| Mills College                 | 2           | 0.2%          | Local    |                                     |            |           |            |            | 0.2%       |
| North Oakland                 | 17          | 1.5%          | Local    |                                     |            |           |            |            | 1.5%       |
| San Antonio                   | 71          | 6.4%          | Local    |                                     |            |           |            |            | 6.4%       |
| West Oakland                  | 41          | 3.7%          | Local    |                                     |            |           |            |            | 3.7%       |
| <b>Subtotal %</b>             | <b>305</b>  | <b>27.4%</b>  |          |                                     |            |           |            |            |            |
|                               |             |               |          |                                     |            |           |            |            |            |
| <b>Total %</b>                |             |               |          | <b>17%</b>                          | <b>23%</b> | <b>5%</b> | <b>30%</b> | <b>11%</b> | <b>14%</b> |

\* Added to show the effects of longshore workers who must report to the union hall in San Francisco before going to the Port. (Half of longshore workers typically report to San Francisco).

**SOURCES:**

1. *Truck Survey - Marine Terminals and Railroad Intermodal Yards* (Port of Oakland, 1993).
2. *Port of Oakland Maritime Economic Impact Study* (1990).
3. Meeting on June 14, 1996: Anne Whittington, Senior Port Strategic Planner (Economics), David Adams, Port Chief Warfinger, and Mark Bowman, Dowling Associates.

**Table J.1-7  
Truck Trips**

| Location                      | Residency   |               | Inbound     |               | Outbound    |               | Route     |
|-------------------------------|-------------|---------------|-------------|---------------|-------------|---------------|-----------|
|                               | Number      | %             | Number      | %             | Number      | %             |           |
| Oakland (see details below)   | 369         | 22.1%         | 489         | 32.4%         | 403         | 29.0%         |           |
| Alameda                       | 24          | 1.4%          | 5           | 0.3%          | 6           | 0.4%          | Local     |
| Berkeley/Albany/Emeryville    | 22          | 1.3%          | 7           | 0.5%          | 8           | 0.6%          | I-80 E.   |
| Lan Leandro/San Lorenzo       | 89          | 5.3%          | 55          | 3.6%          | 48          | 3.5%          | I-880 S.  |
| Piedmont                      | 1           | 0.1%          |             | 0.0%          |             | 0.0%          | Local     |
| Hayward/Castro Valley         | 116         | 6.9%          | 52          | 3.5%          | 43          | 3.1%          | I-880/238 |
| Fremont/Newark                | 38          | 2.3%          | 22          | 1.5%          | 13          | 0.9%          | I-880 S.  |
| Union City                    | 23          | 1.4%          | 18          | 1.2%          | 25          | 1.8%          | I-880 S.  |
| Dublin/Livermore/Pleasanton   | 13          | 0.8%          | 2           | 0.1%          | 3           | 0.2%          | I-880/238 |
| San Pablo/Pinole/Rodeo        | 43          | 2.6%          | 14          | 0.9%          | 3           | 0.2%          | I-80 E.   |
| Richmond                      | 45          | 2.7%          | 117         | 7.8%          | 92          | 6.6%          | I-80 E.   |
| El Cerrito                    | 5           | 0.3%          |             | 0.0%          |             | 0.0%          | I-80 E.   |
| Pittsburg/Antioch             | 28          | 1.7%          | 7           | 0.5%          | 12          | 0.9%          | Rt. 24    |
| Martinez/Concord              | 28          | 1.7%          | 12          | 0.8%          | 8           | 0.6%          | Rt. 24    |
| Walnut Creek/Orinda/Lafayette | 8           | 0.5%          |             | 0.0%          |             | 0.0%          | Rt. 24    |
| Alamo/Danville/San Ramon      | 5           | 0.3%          | 4           | 0.3%          | 1           | 0.1%          | Rt. 24    |
| San Francisco                 | 111         | 6.6%          | 89          | 5.9%          | 76          | 5.5%          | I-80 W.   |
| San Mateo County              | 80          | 4.8%          | 36          | 2.4%          | 21          | 1.5%          | I-80 W.   |
| Santa Clara County            | 67          | 4.0%          | 80          | 5.3%          | 56          | 4.0%          | I-880 S.  |
| Marin County                  | 15          | 0.9%          | 4           | 0.3%          | 4           | 0.3%          | I-80 E.   |
| Napa/Sonoma Counties          | 20          | 1.2%          | 14          | 0.9%          | 20          | 1.4%          | I-80 E.   |
| Solano County                 | 83          | 5.0%          | 38          | 2.5%          | 23          | 1.7%          | I-80 E.   |
| Sacramento Area               |             | 0.0%          | 100         | 6.6%          | 65          | 4.7%          | I-80 E.   |
| San Joaquin/Stanislaus        |             | 0.0%          | 127         | 8.4%          | 100         | 7.2%          | I-880/238 |
| Fresno/Merced/Madera          |             | 0.0%          | 88          | 5.8%          | 76          | 5.5%          | I-880/238 |
| Kern/Kings/Tulare             |             | 0.0%          | 12          | 0.8%          | 8           | 0.6%          | I-880/238 |
| Santa Cruz County             |             | 0.0%          | 2           | 0.1%          | 5           | 0.4%          | I-880 S.  |
| Other California              | 375         | 22.4%         | 56          | 3.7%          | 49          | 3.5%          |           |
| Other States                  | 59          | 3.5%          | 53          | 3.5%          | 48          | 3.5%          |           |
| Unknown                       | 4           | 0.2%          | 4           | 0.3%          | 174         | 12.5%         |           |
| <b>Total</b>                  | <b>1671</b> | <b>100.0%</b> | <b>1507</b> | <b>100.0%</b> | <b>1390</b> | <b>100.0%</b> |           |
| <b>Oakland Details</b>        |             |               |             |               |             |               |           |
| Civic Center                  | 11          | 0.8%          | 18          | 1.2%          | 15          | 1.0%          | I-880     |
| Dimond                        | 15          | 1.1%          | 24          | 1.6%          | 20          | 1.4%          | I-880     |
| Elmwood                       | 72          | 5.2%          | 115         | 7.7%          | 95          | 6.8%          | I-880     |
| Fruitvale                     | 69          | 5.0%          | 111         | 7.3%          | 91          | 6.6%          | I-880     |
| Grand Lake                    | 3           | 0.2%          | 5           | 0.3%          | 4           | 0.3%          | Local     |
| Laurel                        | 4           | 0.3%          | 6           | 0.4%          | 5           | 0.4%          | Local     |
| Mills College                 | 2           | 0.1%          | 3           | 0.2%          | 3           | 0.2%          | Local     |
| North Oakland                 | 17          | 1.2%          | 27          | 1.8%          | 22          | 1.6%          | Local     |
| San Antonio                   | 71          | 5.1%          | 114         | 7.6%          | 94          | 6.7%          | Local     |
| West Oakland                  | 41          | 3.0%          | 66          | 4.4%          | 54          | 3.9%          | Local     |
| <b>Subtotal</b>               | <b>305</b>  | <b>22.1%</b>  | <b>489</b>  | <b>32.4%</b>  | <b>403</b>  | <b>29.0%</b>  |           |

SOURCE: *Truck Survey - Marine Terminals and Railroad Intermodal Yards* (Port of Oakland, March/April 1993)

**Table J.1-8**  
**Truck Routes**

| Location                      | Inbound Trips |         |        |       |           |          |       | Outbound Trips |         |        |       |           |          |       |
|-------------------------------|---------------|---------|--------|-------|-----------|----------|-------|----------------|---------|--------|-------|-----------|----------|-------|
|                               | I-80 E.       | I-80 W. | Rt. 24 | I-880 | I-880/238 | I-880 S. | Local | I-80 E.        | I-80 W. | Rt. 24 | I-880 | I-880/238 | I-880 S. | Local |
| Oakland (see details below)   |               |         |        |       |           |          |       |                |         |        |       |           |          |       |
| Alameda                       |               |         |        |       |           |          | 5     |                |         |        |       |           |          | 6     |
| Berkeley/Albany/Emeryville    | 7             |         |        |       |           |          |       | 8              |         |        |       |           |          |       |
| Lan Leandro/San Lorenzo       |               |         |        |       |           | 55       |       |                |         |        |       |           | 48       |       |
| Piedmont                      |               |         |        |       |           |          | 0     |                |         |        |       |           |          | 0     |
| Hayward/Castro Valley         |               |         |        |       | 52        |          |       |                |         |        |       | 43        |          |       |
| Fremont/Newark                |               |         |        |       |           | 22       |       |                |         |        |       |           | 13       |       |
| Union City                    |               |         |        |       |           | 18       |       |                |         |        |       |           | 25       |       |
| Dublin/Livermore/Pleasanton   |               |         |        |       | 2         |          |       |                |         |        |       | 3         |          |       |
| San Pablo/Pinole/Rodeo        | 14            |         |        |       |           |          |       | 3              |         |        |       |           |          |       |
| Richmond                      | 117           |         |        |       |           |          |       | 92             |         |        |       |           |          |       |
| El Cerrito                    | 0             |         |        |       |           |          |       | 0              |         |        |       |           |          |       |
| Pittsburg/Antioch             |               |         | 7      |       |           |          |       |                |         | 12     |       |           |          |       |
| Martinez/Concord              |               |         | 12     |       |           |          |       |                |         | 8      |       |           |          |       |
| Walnut Creek/Orinda/Lafayette |               |         | 0      |       |           |          |       |                |         | 0      |       |           |          |       |
| Alamo/Danville/San Ramon      |               |         | 4      |       |           |          |       |                |         | 1      |       |           |          |       |
| San Francisco                 |               | 89      |        |       |           |          |       |                | 76      |        |       |           |          |       |
| San Mateo County              |               | 36      |        |       |           |          |       |                | 21      |        |       |           |          |       |
| Santa Clara County            |               |         |        |       |           | 80       |       |                |         |        |       |           | 56       |       |
| Marin County                  | 4             |         |        |       |           |          |       | 4              |         |        |       |           |          |       |
| Napa/Sonoma Counties          | 14            |         |        |       |           |          |       | 20             |         |        |       |           |          |       |
| Solano County                 | 38            |         |        |       |           |          |       | 23             |         |        |       |           |          |       |
| Sacramento Area               | 100           |         |        |       |           |          |       | 85             |         |        |       |           |          |       |
| San Joaquin/Stanslaus         |               |         |        |       | 127       |          |       |                |         |        |       | 100       |          |       |
| Fresno/Merced/Madera          |               |         |        |       | 88        |          |       |                |         |        |       | 76        |          |       |
| Kern/Kings/Tulare             |               |         |        |       | 12        |          |       |                |         |        |       | 8         |          |       |
| Santa Cruz County             |               |         |        |       |           | 2        |       |                |         |        |       |           | 5        |       |
| Other California              |               |         |        |       |           |          |       |                |         |        |       |           |          |       |
| Other States                  |               |         |        |       |           |          |       |                |         |        |       |           |          |       |
| Unknown                       |               |         |        |       |           |          |       |                |         |        |       |           |          |       |
| Oakland Details               |               |         |        |       |           |          |       |                |         |        |       |           |          |       |
| Civic Center                  |               |         |        | 18    |           |          |       |                |         |        | 15    |           |          |       |
| Dimond                        |               |         |        | 24    |           |          |       |                |         |        | 20    |           |          |       |
| Elmwood                       |               |         |        | 115   |           |          |       |                |         |        | 95    |           |          |       |
| Fruitvale                     |               |         |        | 111   |           |          |       |                |         |        | 91    |           |          |       |
| Grand Lake                    |               |         |        |       |           |          | 5     |                |         |        |       |           |          | 4     |
| Laurel                        |               |         |        |       |           |          | 6     |                |         |        |       |           |          | 5     |
| Mills College                 |               |         |        |       |           |          | 3     |                |         |        |       |           |          | 3     |
| North Oakland                 |               |         |        |       |           |          | 27    |                |         |        |       |           |          | 22    |
| San Antonio                   |               |         |        |       |           |          | 114   |                |         |        |       |           |          | 94    |
| West Oakland                  |               |         |        |       |           |          | 66    |                |         |        |       |           |          | 54    |
|                               |               |         |        |       |           |          |       |                |         |        |       |           |          |       |
| Total Inbound/Outbound Trips  | 294           | 125     | 23     | 268   | 281       | 177      | 226   | 215            | 97      | 21     | 221   | 230       | 147      | 188   |
| % of Total I/O Trips          | 21%           | 9%      | 2%     | 19%   | 20%       | 13%      | 16%   | 19%            | 9%      | 2%     | 20%   | 21%       | 13%      | 17%   |
|                               |               |         |        |       |           |          |       |                |         |        |       |           |          |       |
| % of Total Trips (In & Out)   |               |         |        |       |           |          |       | 20%            | 9%      | 2%     | 19%   | 20%       | 13%      | 17%   |

SOURCE: *Truck Survey - Marine Terminals and Railroad Intermodal Yards* (Port of Oakland, March/April 1993)

FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
AM Peak Hour

Trip Generation Report

Forecast for AM Peak Hour

| Zone<br># | Subzone         | Amount  | Units         | Rate<br>In | Rate<br>Out | Trips<br>In | Trips<br>Out | Total<br>Trips | % Of<br>Total |
|-----------|-----------------|---------|---------------|------------|-------------|-------------|--------------|----------------|---------------|
| 1         | FISCO Areas     | 2805.00 | Employees '90 | 0.28       | 0.05        | 785         | 140          | 925            | 100.0         |
|           | Zone 1 Subtotal |         |               |            |             | 785         | 140          | 925            | 100.0         |
| TOTAL     |                 |         |               |            |             | 785         | 140          | 925            | 100.0         |



Table J.1-9

EXIST-AM.CMD      Fri Nov 1, 1996 15:46:20      Page 2-1      Traffic 6.8.0306 (c) 1996 Dowling Assoc. Licensed to Dowling Assoc., Oakland

FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
AM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

To Gates

| Zone | 11   | 12  | 13   | 14   | 15   | 16   |
|------|------|-----|------|------|------|------|
| 1    | 30.0 | 7.0 | 10.0 | 19.0 | 19.0 | 15.0 |

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FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
AM Peak Hour

Turning Movement Report  
AM Peak Hour

| Volume Type                             | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total Volume |
|---|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------------|
|   | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |              |
| #1 Maritime St./ W. Grand WB Ramps      |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 260        | 5    | 0     | 0          | 5    | 5     | 0         | 0    | 0     | 425       | 490  | 5     | 1195         |
| Added                                   | 52         | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 52           |
| Total                                   | 312        | 5    | 0     | 0          | 5    | 5     | 0         | 0    | 0     | 425       | 490  | 5     | 1247         |
| #2 Maritime St./ W. Grand EB Ramps      |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 0          | 260  | 90    | 5          | 425  | 0     | 5         | 300  | 615   | 0         | 0    | 0     | 1700         |
| Added                                   | 0          | 52   | 0     | 0          | 0    | 0     | 0         | 0    | 290   | 0         | 0    | 0     | 342          |
| Total                                   | 0          | 312  | 90    | 5          | 425  | 0     | 5         | 300  | 905   | 0         | 0    | 0     | 2042         |
| #3 Maritime St./ Burma St.              |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 5          | 340  | 0     | 0          | 625  | 200   | 20        | 0    | 5     | 0         | 0    | 0     | 1195         |
| Added                                   | 0          | 52   | 0     | 0          | 290  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 342          |
| Total                                   | 5          | 392  | 0     | 0          | 915  | 200   | 20        | 0    | 5     | 0         | 0    | 0     | 1537         |
| #4 Maritime St./ 14th St.               |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 28         | 238  | 39    | 103        | 463  | 14    | 15        | 0    | 11    | 22        | 0    | 87    | 1020         |
| Added                                   | 0          | 52   | 0     | 0          | 290  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 342          |
| Total                                   | 28         | 290  | 39    | 103        | 753  | 14    | 15        | 0    | 11    | 22        | 0    | 87    | 1362         |
| #5 Maritime St./ 7th St. Extension      |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 184        | 340  | 0     | 0          | 205  | 338   | 70        | 0    | 41    | 0         | 0    | 0     | 1178         |
| Added                                   | 0          | 0    | 0     | 0          | 0    | 290   | 52        | 0    | 0     | 0         | 0    | 0     | 342          |
| Total                                   | 184        | 340  | 0     | 0          | 205  | 628   | 122       | 0    | 41    | 0         | 0    | 0     | 1520         |
| #6 7th St./ 7th St. Extension           |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 38         | 62   | 18    | 129        | 95   | 4     | 13        | 16   | 1     | 87        | 199  | 372   | 1034         |
| Added                                   | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0            |
| Total                                   | 38         | 62   | 18    | 129        | 95   | 4     | 13        | 16   | 1     | 87        | 199  | 372   | 1034         |
| #7 Middle Harbor Rd./ Gate 2 Connection |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 55         | 0    | 73    | 0          | 0    | 0     | 0         | 184  | 49    | 365       | 555  | 0     | 1281         |
| Added                                   | 0          | 0    | 88    | 0          | 0    | 0     | 0         | 0    | 0     | 495       | 0    | 0     | 583          |
| Total                                   | 55         | 0    | 161   | 0          | 0    | 0     | 0         | 184  | 49    | 860       | 555  | 0     | 1864         |
| #8 Adeline St./ 3rd St.                 |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 8          | 60   | 31    | 26         | 308  | 26    | 8         | 6    | 29    | 322       | 59   | 56    | 939          |
| Added                                   | 0          | 35   | 53    | 0          | 495  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 583          |
| Total                                   | 8          | 95   | 84    | 26         | 803  | 26    | 8         | 6    | 29    | 322       | 59   | 56    | 1522         |

Table J.1-9 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
AM Peak Hour

Impact Analysis Report  
Level Of Service

| Intersection |                                  | Base |             |         | Future |             |         | Change<br>in |           |
|--------------|----------------------------------|------|-------------|---------|--------|-------------|---------|--------------|-----------|
|              |                                  | LOS  | Del/<br>Veh | V/<br>C | LOS    | Del/<br>Veh | V/<br>C |              |           |
| #            | 1 Maritime St./ W. Grand WB Ramp | B    | 9.1         | 0.501   | B      | 10.4        | 0.536   | +            | 1.251 D/V |
| #            | 2 Maritime St./ W. Grand EB Ramp | B    | 13.5        | 0.744   | D      | 25.1        | 0.964   | +11.637      | D/V       |
| #            | 3 Maritime St./ Burma St.        | A    | 0.9         | 0.314   | A      | 0.8         | 0.414   | -0.116       | D/V       |
| #            | 4 Maritime St./ 14th St.         | B    | 10.2        | 0.252   | B      | 7.7         | 0.352   | -2.445       | D/V       |
| #            | 5 Maritime St./ 7th St. Extensio | B    | 8.8         | 0.455   | B      | 11.1        | 0.726   | +            | 2.312 D/V |
| #            | 6 7th St./ 7th St. Extension     | B    | 11.9        | 0.431   | B      | 11.9        | 0.431   | +            | 0.000 D/V |
| #            | 7 Middle Harbor Rd./ Gate 2 Conn | B    | 8.5         | 0.392   | B      | 13.1        | 0.803   | +            | 4.645 D/V |
| #            | 8 Adeline St./ 3rd St.           | C    | 15.3        | 0.423   | C      | 17.1        | 0.634   | +            | 1.757 D/V |

FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
AM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #1 Maritime St./ W. Grand WB Ramps  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.536  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 10.4  
Optimal Cycle: 49 Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Protected   |   |   | Protected   |   |   | Protected  |   |   | Protected  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 1           | 0 | 1 | 0           | 0 | 1 | 0          | 0 | 0 | 1          | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 260  | 5    | 0    | 0    | 5    | 5    | 0    | 0    | 0    | 425  | 490  | 5    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 260  | 5    | 0    | 0    | 5    | 5    | 0    | 0    | 0    | 425  | 490  | 5    |
| Added Vol:   | 52   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 312  | 5    | 0    | 0    | 5    | 5    | 0    | 0    | 0    | 425  | 490  | 5    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 312  | 5    | 0    | 0    | 5    | 5    | 0    | 0    | 0    | 425  | 490  | 5    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 312  | 5    | 0    | 0    | 5    | 5    | 0    | 0    | 0    | 425  | 490  | 5    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 312  | 5    | 0    | 0    | 5    | 5    | 0    | 0    | 0    | 425  | 490  | 5    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.77 | 0.81 | 1.00 | 1.00 | 0.81 | 0.69 | 1.00 | 1.00 | 1.00 | 0.81 | 0.81 | 0.81 |
| Lanes:      | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.99 | 0.01 |
| Final Sat.: | 1467 | 1545 | 0    | 0    | 1545 | 1313 | 0    | 0    | 0    | 1545 | 1529 | 16   |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.32 | 0.32 |
| Crit Moves:  | **** |      |      | **** |      |      |      |      |      | **** |      |      |
| Green/Cycle: | 0.40 | 0.40 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.60 | 0.60 | 0.60 |
| Volume/Cap:  | 0.54 | 0.01 | 0.00 | 0.00 | 0.54 | 0.63 | 0.00 | 0.00 | 0.00 | 0.46 | 0.54 | 0.54 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 15.7 | 11.6 | 0.0  | 0.0  | 62.0 | 88.4 | 0.0  | 0.0  | 0.0  | 7.5  | 8.2  | 8.2  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 15.7 | 11.6 | 0.0  | 0.0  | 62.0 | 88.4 | 0.0  | 0.0  | 0.0  | 7.5  | 8.2  | 8.2  |
| Queue:       | 7    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 7    | 8    | 0    |



Table J.1-9 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #2 Maritime St./ W. Grand EB Ramps  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.964  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 25.1  
Optimal Cycle: 180 Level Of Service: D  
\*\*\*\*\*

| Approach:   | North Bound |   |   |   | South Bound |   |   |   | East Bound |   |   |   | West Bound |   |   |   |   |   |   |   |
|-------------|-------------|---|---|---|-------------|---|---|---|------------|---|---|---|------------|---|---|---|---|---|---|---|
| Movement:   | L           | - | T | - | R           | L | - | T | -          | R | L | - | T          | - | R | L | - | T | - | R |
| Control:    | Protected   |   |   |   | Protected   |   |   |   | Protected  |   |   |   | Protected  |   |   |   |   |   |   |   |
| Rights:     | Include     |   |   |   | Include     |   |   |   | Include    |   |   |   | Include    |   |   |   |   |   |   |   |
| Min. Green: | 0           | 0 | 0 | 0 | 0           | 0 | 0 | 0 | 0          | 0 | 0 | 0 | 0          | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lanes:      | 0           | 0 | 1 | 1 | 0           | 1 | 0 | 1 | 0          | 0 | 1 | 0 | 1          | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 260  | 90   | 5    | 425  | 0    | 5    | 300  | 615  | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 260  | 90   | 5    | 425  | 0    | 5    | 300  | 615  | 0    | 0    | 0    |
| Added Vol:   | 0    | 52   | 0    | 0    | 0    | 0    | 0    | 0    | 290  | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 312  | 90   | 5    | 425  | 0    | 5    | 300  | 905  | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 312  | 90   | 5    | 425  | 0    | 5    | 300  | 905  | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 312  | 90   | 5    | 425  | 0    | 5    | 300  | 905  | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 327  | 95   | 5    | 425  | 0    | 5    | 300  | 905  | 0    | 0    | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 0.79 | 0.79 | 0.77 | 0.81 | 1.00 | 0.69 | 0.81 | 0.69 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 0.00 | 1.55 | 0.45 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0    | 2322 | 675  | 1467 | 1545 | 0    | 1313 | 1545 | 1313 | 0    | 0    | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.14 | 0.14 | 0.00 | 0.28 | 0.00 | 0.00 | 0.19 | 0.69 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.00 | 0.28 | 0.28 | 0.01 | 0.29 | 0.00 | 0.71 | 0.71 | 0.71 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.00 | 0.51 | 0.51 | 0.51 | 0.96 | 0.00 | 0.01 | 0.27 | 0.96 | 0.00 | 0.00 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 20.0 | 20.0 | 55.7 | 47.7 | 0.0  | 2.6  | 3.3  | 24.1 | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 20.0 | 20.0 | 55.7 | 47.7 | 0.0  | 2.6  | 3.3  | 24.1 | 0.0  | 0.0  | 0.0  |
| Queue:       | 0    | 8    | 2    | 0    | 16   | 0    | 0    | 3    | 28   | 0    | 0    | 0    |

\*\*\*\*\*



Table J.1-9 (Continued)

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## FISCO/Port Vision 2000 EIS/EIR

Existing Conditions

AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #4 Maritime St./ 14th St.  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.352

Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 7.7

Optimal Cycle: 29 Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound |   |   |   | South Bound |   |   |   | East Bound |   |   |   | West Bound |   |   |  |
|-------------|-------------|---|---|---|-------------|---|---|---|------------|---|---|---|------------|---|---|--|
| Movement:   | L           | T | R |   | L           | T | R |   | L          | T | R |   | L          | T | R |  |
| Control:    | Protected   |   |   |   | Protected   |   |   |   | Permitted  |   |   |   | Permitted  |   |   |  |
| Rights:     | Include     |   |   |   | Include     |   |   |   | Include    |   |   |   | Include    |   |   |  |
| Min. Green: | 0           | 0 | 0 |   | 0           | 0 | 0 |   | 0          | 0 | 0 |   | 0          | 0 | 0 |  |
| Lanes:      | 1           | 0 | 1 | 1 | 0           | 1 | 1 | 0 | 0          | 0 | 1 | 0 | 1          | 0 | 0 |  |

| Volume Module: | North Bound |      |      |  | South Bound |      |      |  | East Bound |      |      |  | West Bound |      |      |  |
|----------------|-------------|------|------|--|-------------|------|------|--|------------|------|------|--|------------|------|------|--|
| Base Vol:      | 28          | 238  | 39   |  | 103         | 463  | 14   |  | 15         | 0    | 11   |  | 22         | 0    | 87   |  |
| Growth Adj:    | 1.00        | 1.00 | 1.00 |  | 1.00        | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  |
| Initial Bse:   | 28          | 238  | 39   |  | 103         | 463  | 14   |  | 15         | 0    | 11   |  | 22         | 0    | 87   |  |
| Added Vol:     | 0           | 52   | 0    |  | 0           | 290  | 0    |  | 0          | 0    | 0    |  | 0          | 0    | 0    |  |
| PasserByVol:   | 0           | 0    | 0    |  | 0           | 0    | 0    |  | 0          | 0    | 0    |  | 0          | 0    | 0    |  |
| Initial Fut:   | 28          | 290  | 39   |  | 103         | 753  | 14   |  | 15         | 0    | 11   |  | 22         | 0    | 87   |  |
| User Adj:      | 1.00        | 1.00 | 1.00 |  | 1.00        | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  |
| PHF Adj:       | 1.00        | 1.00 | 1.00 |  | 1.00        | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  |
| PHF Volume:    | 28          | 290  | 39   |  | 103         | 753  | 14   |  | 15         | 0    | 11   |  | 22         | 0    | 87   |  |
| Reduct Vol:    | 0           | 0    | 0    |  | 0           | 0    | 0    |  | 0          | 0    | 0    |  | 0          | 0    | 0    |  |
| Reduced Vol:   | 28          | 290  | 39   |  | 103         | 753  | 14   |  | 15         | 0    | 11   |  | 22         | 0    | 87   |  |
| PCE Adj:       | 1.00        | 1.00 | 1.00 |  | 1.00        | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  |
| MLF Adj:       | 1.00        | 1.05 | 1.05 |  | 1.00        | 1.05 | 1.05 |  | 1.00       | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  |
| Final Vol.:    | 28          | 304  | 41   |  | 103         | 791  | 15   |  | 15         | 0    | 11   |  | 22         | 0    | 87   |  |

| Saturation Flow Module: | North Bound |      |      |  | South Bound |      |      |  | East Bound |      |      |  | West Bound |      |      |  |
|-------------------------|-------------|------|------|--|-------------|------|------|--|------------|------|------|--|------------|------|------|--|
| Sat/Lane:               | 1900        | 1900 | 1900 |  | 1900        | 1900 | 1900 |  | 1900       | 1900 | 1900 |  | 1900       | 1900 | 1900 |  |
| Adjustment:             | 0.76        | 0.78 | 0.78 |  | 0.76        | 0.80 | 0.80 |  | 0.58       | 1.00 | 0.58 |  | 0.74       | 1.00 | 0.68 |  |
| Lanes:                  | 1.00        | 1.76 | 0.24 |  | 1.00        | 1.96 | 0.04 |  | 0.58       | 0.00 | 0.42 |  | 1.00       | 0.00 | 1.00 |  |
| Final Sat.:             | 1444        | 2625 | 354  |  | 1444        | 2983 | 57   |  | 641        | 0    | 470  |  | 1414       | 0    | 1292 |  |

| Capacity Analysis Module: | North Bound |      |      |  | South Bound |      |      |  | East Bound |      |      |  | West Bound |      |      |  |
|---------------------------|-------------|------|------|--|-------------|------|------|--|------------|------|------|--|------------|------|------|--|
| Vol/Sat:                  | 0.02        | 0.12 | 0.12 |  | 0.07        | 0.27 | 0.27 |  | 0.02       | 0.00 | 0.02 |  | 0.02       | 0.00 | 0.07 |  |
| Crit Moves:               | ****        |      |      |  | ****        |      |      |  |            |      |      |  | ****       |      |      |  |
| Green/Cycle:              | 0.06        | 0.50 | 0.50 |  | 0.31        | 0.75 | 0.75 |  | 0.19       | 0.00 | 0.19 |  | 0.19       | 0.00 | 0.19 |  |
| Volume/Cap:               | 0.35        | 0.23 | 0.23 |  | 0.23        | 0.35 | 0.35 |  | 0.12       | 0.00 | 0.12 |  | 0.08       | 0.00 | 0.35 |  |

| Level Of Service Module: | North Bound |      |      |  | South Bound |      |      |  | East Bound |      |      |  | West Bound |      |      |  |
|--------------------------|-------------|------|------|--|-------------|------|------|--|------------|------|------|--|------------|------|------|--|
| Delay/Veh:               | 30.5        | 9.1  | 9.1  |  | 16.7        | 2.7  | 2.7  |  | 21.6       | 0.0  | 21.6 |  | 21.5       | 0.0  | 23.0 |  |
| User DelAdj:             | 1.00        | 1.00 | 1.00 |  | 1.00        | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  |
| AdjDel/Veh:              | 30.5        | 9.1  | 9.1  |  | 16.7        | 2.7  | 2.7  |  | 21.6       | 0.0  | 21.6 |  | 21.5       | 0.0  | 23.0 |  |
| Queue:                   | 1           | 5    | 1    |  | 2           | 7    | 0    |  | 0          | 0    | 0    |  | 1          | 0    | 2    |  |

EXIST-AM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #5 Maritime St./ 7th St. Extension  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.726  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 11.1  
Optimal Cycle: 83 Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound |   |   |   | South Bound |   |   |   | East Bound |   |   |   | West Bound |   |   |   |   |   |   |   |
|-------------|-------------|---|---|---|-------------|---|---|---|------------|---|---|---|------------|---|---|---|---|---|---|---|
| Movement:   | L           | - | T | - | R           | L | - | T | -          | R | L | - | T          | - | R | L | - | T | - | R |
| Control:    | Protected   |   |   |   | Protected   |   |   |   | Protected  |   |   |   | Protected  |   |   |   |   |   |   |   |
| Rights:     | Include     |   |   |   | Include     |   |   |   | Include    |   |   |   | Include    |   |   |   |   |   |   |   |
| Min. Green: | 0           | 0 | 0 | 0 | 0           | 0 | 0 | 0 | 0          | 0 | 0 | 0 | 0          | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lanes:      | 1           | 0 | 1 | 1 | 0           | 0 | 0 | 1 | 1          | 0 | 1 | 0 | 0          | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 184  | 340  | 0    | 0    | 205  | 338  | 70   | 0    | 41   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 184  | 340  | 0    | 0    | 205  | 338  | 70   | 0    | 41   | 0    | 0    | 0    |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 290  | 52   | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 184  | 340  | 0    | 0    | 205  | 628  | 122  | 0    | 41   | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 184  | 340  | 0    | 0    | 205  | 628  | 122  | 0    | 41   | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 184  | 340  | 0    | 0    | 205  | 628  | 122  | 0    | 41   | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 184  | 357  | 0    | 0    | 205  | 628  | 122  | 0    | 41   | 0    | 0    | 0    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.73 | 0.77 | 1.00 | 1.00 | 0.77 | 0.65 | 0.73 | 1.00 | 0.65 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 2.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 1388 | 2923 | 0    | 0    | 1462 | 1242 | 1388 | 0    | 1242 | 0    | 0    | 0    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.13 | 0.12 | 0.00 | 0.00 | 0.14 | 0.51 | 0.09 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      |      |      | **** | **** |      |      |      |      |      |
| Green/Cycle: | 0.18 | 0.88 | 0.00 | 0.00 | 0.70 | 0.70 | 0.12 | 0.00 | 0.12 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.73 | 0.14 | 0.00 | 0.00 | 0.20 | 0.73 | 0.73 | 0.00 | 0.27 | 0.00 | 0.00 | 0.00 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 31.6 | 0.5  | 0.0  | 0.0  | 3.5  | 7.7  | 37.0 | 0.0  | 26.1 | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 31.6 | 0.5  | 0.0  | 0.0  | 3.5  | 7.7  | 37.0 | 0.0  | 26.1 | 0.0  | 0.0  | 0.0  |
| Queue:       | 5    | 1    | 0    | 0    | 2    | 11   | 4    | 0    | 1    | 0    | 0    | 0    |



Table J.1-9 (Continued)

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Existing Conditions  
AM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #6 7th St./ 7th St. Extension  
\*\*\*\*\*

Cycle (sec): 100      Critical Vol./Cap. (X): 0.431  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 11.9  
Optimal Cycle: 40      Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound |   |   |   | South Bound |   |   |   | East Bound |   |   |   | West Bound |   |   |  |
|-------------|-------------|---|---|---|-------------|---|---|---|------------|---|---|---|------------|---|---|--|
| Movement:   | L           | T | R |   | L           | T | R |   | L          | T | R |   | L          | T | R |  |
| Control:    | Protected   |   |   |   | Protected   |   |   |   | Protected  |   |   |   | Protected  |   |   |  |
| Rights:     | Include     |   |   |   | Include     |   |   |   | Include    |   |   |   | Include    |   |   |  |
| Min. Green: | 0           | 0 | 0 |   | 0           | 0 | 0 |   | 0          | 0 | 0 |   | 0          | 0 | 0 |  |
| Lanes:      | 1           | 0 | 1 | 1 | 0           | 1 | 1 | 0 | 1          | 0 | 2 | 1 | 0          | 1 | 0 |  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 38   | 62   | 18   | 129  | 95   | 4    | 13   | 16   | 1    | 87   | 199  | 372  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 38   | 62   | 18   | 129  | 95   | 4    | 13   | 16   | 1    | 87   | 199  | 372  |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 38   | 62   | 18   | 129  | 95   | 4    | 13   | 16   | 1    | 87   | 199  | 372  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 38   | 62   | 18   | 129  | 95   | 4    | 13   | 16   | 1    | 87   | 199  | 372  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 38   | 62   | 18   | 129  | 95   | 4    | 13   | 16   | 1    | 87   | 199  | 372  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.10 | 1.10 | 1.00 | 1.05 | 1.00 |
| Final Vol.:  | 38   | 65   | 19   | 129  | 100  | 4    | 13   | 18   | 1    | 87   | 209  | 372  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.73 | 0.75 | 0.75 | 0.73 | 0.76 | 0.76 | 0.73 | 0.76 | 0.76 | 0.73 | 0.77 | 0.65 |
| Lanes:      | 1.00 | 1.55 | 0.45 | 1.00 | 1.92 | 0.08 | 1.00 | 2.84 | 0.16 | 1.00 | 2.00 | 1.00 |
| Final Sat.: | 1388 | 2194 | 641  | 1388 | 2783 | 111  | 1388 | 4112 | 228  | 1388 | 2923 | 1242 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.03 | 0.03 | 0.03 | 0.09 | 0.04 | 0.04 | 0.01 | 0.00 | 0.00 | 0.06 | 0.07 | 0.30 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      | **** |
| Green/Cycle: | 0.12 | 0.07 | 0.07 | 0.22 | 0.16 | 0.16 | 0.02 | 0.05 | 0.05 | 0.67 | 0.69 | 0.69 |
| Volume/Cap:  | 0.22 | 0.43 | 0.43 | 0.43 | 0.22 | 0.22 | 0.43 | 0.09 | 0.09 | 0.09 | 0.10 | 0.43 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 25.7 | 29.8 | 29.8 | 22.6 | 23.6 | 23.6 | 36.8 | 29.5 | 29.5 | 3.8  | 3.3  | 4.5  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 25.7 | 29.8 | 29.8 | 22.6 | 23.6 | 23.6 | 36.8 | 29.5 | 29.5 | 3.8  | 3.3  | 4.5  |
| Queue:       | 1    | 2    | 1    | 3    | 2    | 0    | 0    | 0    | 0    | 1    | 2    | 5    |

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## FISCO/Port Vision 2000 EIS/EIR

Existing Conditions

AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #7 Middle Harbor Rd./ Gate 2 Connection  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.803  
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 13.1  
 Optimal Cycle: 116 Level Of Service: B

\*\*\*\*\*  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 -----|-----|-----|-----|  
 Control: Protected Protected Protected Protected  
 Rights: Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
 Lanes: 1 0 0 0 1 0 0 0 0 0 0 0  
 -----|-----|-----|-----|

Volume Module:  
 Base Vol: 55 0 73 0 0 0 0 184 49 365 555 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 55 0 73 0 0 0 0 184 49 365 555 0  
 Added Vol: 0 0 88 0 0 0 0 0 0 495 0 0  
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 55 0 161 0 0 0 0 184 49 860 555 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 55 0 161 0 0 0 0 184 49 860 555 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 55 0 161 0 0 0 0 184 49 860 555 0  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.05 1.05 1.00 1.05 1.00  
 Final Vol.: 55 0 161 0 0 0 0 193 51 860 583 0  
 -----|-----|-----|-----|

Saturation Flow Module:  
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
 Adjustment: 0.76 1.00 0.68 1.00 1.00 1.00 1.00 0.78 0.78 0.76 0.80 1.00  
 Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.58 0.42 1.00 2.00 0.00  
 Final Sat.: 1444 0 1292 0 0 0 0 2332 616 1444 3040 0  
 -----|-----|-----|-----|

Capacity Analysis Module:  
 Vol/Sat: 0.04 0.00 0.12 0.00 0.00 0.00 0.00 0.08 0.08 0.60 0.19 0.00  
 Crit Moves: \*\*\*\* \*\*\*\*  
 Green/Cycle: 0.16 0.00 0.16 0.00 0.00 0.00 0.00 0.10 0.10 0.74 0.84 0.00  
 Volume/Cap: 0.25 0.00 0.80 0.00 0.00 0.00 0.00 0.80 0.80 0.80 0.23 0.00  
 -----|-----|-----|-----|

Level Of Service Module:  
 Delay/Veh: 24.1 0.0 40.1 0.0 0.0 0.0 0.0 38.1 38.1 8.5 1.0 0.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 24.1 0.0 40.1 0.0 0.0 0.0 0.0 38.1 38.1 8.5 1.0 0.0  
 Queue: 1 0 5 0 0 0 0 6 2 16 3 0  
 \*\*\*\*\*

Table J.1-9 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
AM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100      Critical Vol./Cap. (X): 0.634  
Loss Time (sec): 0 (Y+R = 4 sec)      Average Delay (sec/veh): 17.1  
Optimal Cycle: 62      Level Of Service: C

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound  |   |   | West Bound  |   |   |
|-------------|-------------|---|---|-------------|---|---|-------------|---|---|-------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L           | T | R | L           | T | R |
| Control:    | Split Phase |   |   | Split Phase |   |   | Split Phase |   |   | Split Phase |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include     |   |   | Include     |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 0 |
| Lanes:      | 0           | 1 | 0 | 1           | 0 | 0 | 0           | 1 | 0 | 1           | 0 | 0 |

| Volume Module: | North Bound |      |      | South Bound |      |      | East Bound |      |      | West Bound |      |      |
|----------------|-------------|------|------|-------------|------|------|------------|------|------|------------|------|------|
| Base Vol:      | 8           | 60   | 31   | 26          | 308  | 26   | 8          | 6    | 29   | 322        | 59   | 56   |
| Growth Adj:    | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| Initial Bse:   | 8           | 60   | 31   | 26          | 308  | 26   | 8          | 6    | 29   | 322        | 59   | 56   |
| Added Vol:     | 0           | 35   | 53   | 0           | 495  | 0    | 0          | 0    | 0    | 0          | 0    | 0    |
| PasserByVol:   | 0           | 0    | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |
| Initial Fut:   | 8           | 95   | 84   | 26          | 803  | 26   | 8          | 6    | 29   | 322        | 59   | 56   |
| User Adj:      | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| PHF Adj:       | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| PHF Volume:    | 8           | 95   | 84   | 26          | 803  | 26   | 8          | 6    | 29   | 322        | 59   | 56   |
| Reduct Vol:    | 0           | 0    | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |
| Reduced Vol:   | 8           | 95   | 84   | 26          | 803  | 26   | 8          | 6    | 29   | 322        | 59   | 56   |
| PCE Adj:       | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| MLF Adj:       | 1.05        | 1.05 | 1.05 | 1.05        | 1.05 | 1.05 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| Final Vol.:    | 8           | 100  | 88   | 27          | 843  | 27   | 8          | 6    | 29   | 322        | 59   | 56   |

| Saturation Flow Module: | North Bound |      |      | South Bound |      |      | East Bound |      |      | West Bound |      |      |
|-------------------------|-------------|------|------|-------------|------|------|------------|------|------|------------|------|------|
| Sat/Lane:               | 1900        | 1900 | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900 |
| Adjustment:             | 0.72        | 0.72 | 0.72 | 0.77        | 0.77 | 0.77 | 0.75       | 0.75 | 0.65 | 0.73       | 0.72 | 0.72 |
| Lanes:                  | 0.08        | 1.02 | 0.90 | 0.06        | 1.88 | 0.06 | 0.57       | 0.43 | 1.00 | 1.00       | 0.51 | 0.49 |
| Final Sat.:             | 111         | 1387 | 1221 | 88          | 2747 | 88   | 810        | 608  | 1242 | 1388       | 697  | 662  |

| Capacity Analysis Module: | North Bound |      |      | South Bound |      |      | East Bound |      |      | West Bound |      |      |
|---------------------------|-------------|------|------|-------------|------|------|------------|------|------|------------|------|------|
| Vol/Sat:                  | 0.07        | 0.07 | 0.07 | 0.31        | 0.31 | 0.31 | 0.01       | 0.01 | 0.02 | 0.23       | 0.08 | 0.08 |
| Crit Moves:               | ****        |      |      | ****        |      |      | ****       |      |      | ****       |      |      |
| Green/Cycle:              | 0.11        | 0.11 | 0.11 | 0.48        | 0.48 | 0.48 | 0.04       | 0.04 | 0.04 | 0.37       | 0.37 | 0.37 |
| Volume/Cap:               | 0.63        | 0.63 | 0.63 | 0.63        | 0.63 | 0.63 | 0.27       | 0.27 | 0.63 | 0.63       | 0.23 | 0.23 |

| Level Of Service Module: | North Bound |      |      | South Bound |      |      | East Bound |      |      | West Bound |      |      |
|--------------------------|-------------|------|------|-------------|------|------|------------|------|------|------------|------|------|
| Delay/Veh:               | 30.3        | 30.3 | 30.3 | 13.1        | 13.1 | 13.1 | 30.5       | 30.5 | 42.3 | 18.3       | 14.2 | 14.2 |
| User DelAdj:             | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| AdjDel/Veh:              | 30.3        | 30.3 | 30.3 | 13.1        | 13.1 | 13.1 | 30.5       | 30.5 | 42.3 | 18.3       | 14.2 | 14.2 |
| Queue:                   | 0           | 3    | 3    | 1           | 18   | 1    | 0          | 0    | 1    | 8          | 1    | 1    |

FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
PM Peak Hour

Trip Generation Report

Forecast for PM Peak Hour

| Zone<br># | Subzone         | Amount  | Units         | Rate<br>In | Rate<br>Out | Trips<br>In | Trips<br>Out | Total<br>Trips | % Of<br>Total |
|-----------|-----------------|---------|---------------|------------|-------------|-------------|--------------|----------------|---------------|
| 1         | FISCO Areas     | 2805.00 | Employees '90 | 0.06       | 0.21        | 168         | 589          | 757            | 100.0         |
|           | Zone 1 Subtotal |         |               |            |             | 168         | 589          | 757            | 100.0         |
| TOTAL     |                 |         |               |            |             | 168         | 589          | 757            | 100.0         |



# Table J.1-9 (Continued)

EXIST-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
PM Peak Hour

Trip Distribution Report

Percent Of Trips Existing

| Zone | To Gates |     |      |      |      |      |
|------|----------|-----|------|------|------|------|
|      | 11       | 12  | 13   | 14   | 15   | 16   |
| 1    | 30.0     | 7.0 | 10.0 | 19.0 | 19.0 | 15.0 |

FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
PM Peak Hour

Turning Movement Report  
PM Peak Hour

| Volume Type                             | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total Volume |
|---|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------------|
|   | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |              |
| #1 Maritime St./ W. Grand WB Ramps      |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 820        | 10   | 0     | 0          | 10   | 5     | 0         | 0    | 0     | 95        | 490  | 5     | 1435         |
| Added                                   | 218        | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 218          |
| Total                                   | 1038       | 10   | 0     | 0          | 10   | 5     | 0         | 0    | 0     | 95        | 490  | 5     | 1653         |
| #2 Maritime St./ W. Grand EB Ramps      |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 0          | 825  | 265   | 5          | 100  | 0     | 5         | 255  | 215   | 0         | 0    | 0     | 1670         |
| Added                                   | 0          | 218  | 0     | 0          | 0    | 0     | 0         | 0    | 62    | 0         | 0    | 0     | 280          |
| Total                                   | 0          | 1043 | 265   | 5          | 100  | 0     | 5         | 255  | 277   | 0         | 0    | 0     | 1950         |
| #3 Maritime St./ Burma St.              |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 5          | 905  | 0     | 0          | 320  | 5     | 185       | 0    | 50    | 0         | 0    | 0     | 1470         |
| Added                                   | 0          | 218  | 0     | 0          | 62   | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 280          |
| Total                                   | 5          | 1123 | 0     | 0          | 382  | 5     | 185       | 0    | 50    | 0         | 0    | 0     | 1750         |
| #4 Maritime St./ 14th St.               |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 34         | 601  | 28    | 105        | 252  | 14    | 19        | 0    | 36    | 92        | 0    | 290   | 1471         |
| Added                                   | 0          | 218  | 0     | 0          | 62   | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 280          |
| Total                                   | 34         | 819  | 28    | 105        | 314  | 14    | 19        | 0    | 36    | 92        | 0    | 290   | 1751         |
| #5 Maritime St./ 7th St. Extension      |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 41         | 365  | 0     | 0          | 380  | 76    | 226       | 0    | 93    | 0         | 0    | 0     | 1181         |
| Added                                   | 0          | 0    | 0     | 0          | 0    | 62    | 218       | 0    | 0     | 0         | 0    | 0     | 280          |
| Total                                   | 41         | 365  | 0     | 0          | 380  | 138   | 444       | 0    | 93    | 0         | 0    | 0     | 1461         |
| #6 7th St./ 7th St. Extension           |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 9          | 120  | 45    | 327        | 117  | 6     | 73        | 141  | 42    | 28        | 48   | 153   | 1109         |
| Added                                   | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0            |
| Total                                   | 9          | 120  | 45    | 327        | 117  | 6     | 73        | 141  | 42    | 28        | 48   | 153   | 1109         |
| #7 Middle Harbor Rd./ Gate 2 Connection |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 102        | 0    | 347   | 0          | 0    | 0     | 0         | 421  | 133   | 128       | 257  | 0     | 1388         |
| Added                                   | 0          | 0    | 371   | 0          | 0    | 0     | 0         | 0    | 0     | 106       | 0    | 0     | 477          |
| Total                                   | 102        | 0    | 718   | 0          | 0    | 0     | 0         | 421  | 133   | 234       | 257  | 0     | 1865         |
| #8 Adeline St./ 3rd St.                 |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                                    | 36         | 340  | 122   | 43         | 41   | 15    | 30        | 14   | 13    | 89        | 39   | 78    | 860          |
| Added                                   | 0          | 147  | 224   | 0          | 106  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 477          |
| Total                                   | 36         | 487  | 346   | 43         | 147  | 15    | 30        | 14   | 13    | 89        | 39   | 78    | 1337         |

Table J.1-9 (Continued)

EXIST-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
PM Peak Hour

Impact Analysis Report  
Level Of Service

| Intersection                       | Base |      |       | Future |      |       | Change<br>in |
|------------------------------------|------|------|-------|--------|------|-------|--------------|
|                                    | LOS  | Del/ | V/    | LOS    | Del/ | V/    |              |
|                                    |      | Veh  | C     |        | Veh  | C     |              |
| # 1 Maritime St./ W. Grand WB Ramp | C    | 22.7 | 0.886 | E      | 47.8 | 1.034 | +25.048 D/V  |
| # 2 Maritime St./ W. Grand EB Ramp | B    | 9.3  | 0.554 | B      | 10.5 | 0.673 | + 1.157 D/V  |
| # 3 Maritime St./ Burma St.        | B    | 6.3  | 0.441 | B      | 5.6  | 0.516 | -0.638 D/V   |
| # 4 Maritime St./ 14th St.         | B    | 14.3 | 0.516 | B      | 13.7 | 0.590 | -0.641 D/V   |
| # 5 Maritime St./ 7th St. Extensio | B    | 10.7 | 0.361 | B      | 13.3 | 0.543 | + 2.655 D/V  |
| # 6 7th St./ 7th St. Extension     | C    | 17.5 | 0.473 | C      | 17.5 | 0.473 | + 0.000 D/V  |
| # 7 Middle Harbor Rd./ Gate 2 Conn | B    | 14.7 | 0.557 | D      | 28.4 | 0.917 | +13.722 D/V  |
| # 8 Adeline St./ 3rd St.           | B    | 13.7 | 0.320 | B      | 13.1 | 0.505 | -0.601 D/V   |

FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
PM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #1 Maritime St./ W. Grand WB Ramps  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 1.034  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 47.8  
Optimal Cycle: 180 Level Of Service: E  
\*\*\*\*\*

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Protected   |   |   | Protected   |   |   | Protected  |   |   | Protected  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 1           | 0 | 1 | 0           | 0 | 1 | 0          | 0 | 0 | 0          | 1 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 820  | 10   | 0    | 0    | 10   | 5    | 0    | 0    | 0    | 95   | 490  | 5    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 820  | 10   | 0    | 0    | 10   | 5    | 0    | 0    | 0    | 95   | 490  | 5    |
| Added Vol:   | 218  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 1038 | 10   | 0    | 0    | 10   | 5    | 0    | 0    | 0    | 95   | 490  | 5    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 1038 | 10   | 0    | 0    | 10   | 5    | 0    | 0    | 0    | 95   | 490  | 5    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 1038 | 10   | 0    | 0    | 10   | 5    | 0    | 0    | 0    | 95   | 490  | 5    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 1038 | 10   | 0    | 0    | 10   | 5    | 0    | 0    | 0    | 95   | 490  | 5    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.77 | 0.81 | 1.00 | 1.00 | 0.81 | 0.69 | 1.00 | 1.00 | 1.00 | 0.81 | 0.81 | 0.81 |
| Lanes:      | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.99 | 0.01 |
| Final Sat.: | 1467 | 1545 | 0    | 0    | 1545 | 1313 | 0    | 0    | 0    | 1545 | 1529 | 16   |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.71 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.32 | 0.32 |
| Crit Moves:  | **** |      |      | **** |      |      |      |      |      | **** |      |      |
| Green/Cycle: | 0.68 | 0.69 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.31 | 0.31 | 0.31 |
| Volume/Cap:  | 1.03 | 0.01 | 0.00 | 0.00 | 1.03 | 0.61 | 0.00 | 0.00 | 0.00 | 0.20 | 1.03 | 1.03 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 41.1 | 3.1  | 0.0  | 0.0  | 281  | 81.0 | 0.0  | 0.0  | 0.0  | 16.4 | 63.6 | 63.6 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 41.1 | 3.1  | 0.0  | 0.0  | 281  | 81.0 | 0.0  | 0.0  | 0.0  | 16.4 | 63.6 | 63.6 |
| Queue:       | 42   | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0    | 2    | 21   | 1    |



Table J.1-9 (Continued)

EXIST-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
PM Peak Hour

## Level Of Service Computation Report

## 1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #2 Maritime St./ W. Grand EB Ramps  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.673  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 10.5  
Optimal Cycle: 70 Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound |   |       | South Bound |   |       | East Bound |   |       | West Bound |   |       |
|-------------|-------------|---|-------|-------------|---|-------|------------|---|-------|------------|---|-------|
| Movement:   | L           | T | R     | L           | T | R     | L          | T | R     | L          | T | R     |
| Control:    | Protected   |   |       | Protected   |   |       | Protected  |   |       | Protected  |   |       |
| Rights:     | Include     |   |       | Include     |   |       | Include    |   |       | Include    |   |       |
| Min. Green: | 0           | 0 | 0     | 0           | 0 | 0     | 0          | 0 | 0     | 0          | 0 | 0     |
| Lanes:      | 0           | 0 | 1 1 0 | 1           | 0 | 1 0 0 | 1          | 0 | 1 0 1 | 0          | 0 | 0 0 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 825  | 265  | 5    | 100  | 0    | 5    | 255  | 215  | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 825  | 265  | 5    | 100  | 0    | 5    | 255  | 215  | 0    | 0    | 0    |
| Added Vol:   | 0    | 218  | 0    | 0    | 0    | 0    | 0    | 0    | 62   | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 1043 | 265  | 5    | 100  | 0    | 5    | 255  | 277  | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 1043 | 265  | 5    | 100  | 0    | 5    | 255  | 277  | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 1043 | 265  | 5    | 100  | 0    | 5    | 255  | 277  | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 1095 | 278  | 5    | 100  | 0    | 5    | 255  | 277  | 0    | 0    | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 0.79 | 0.79 | 0.77 | 0.81 | 1.00 | 0.69 | 0.81 | 0.69 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 0.00 | 1.60 | 0.40 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0    | 2390 | 607  | 1467 | 1545 | 0    | 1313 | 1545 | 1313 | 0    | 0    | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.46 | 0.46 | 0.00 | 0.06 | 0.00 | 0.00 | 0.17 | 0.21 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.00 | 0.68 | 0.68 | 0.01 | 0.69 | 0.00 | 0.31 | 0.31 | 0.31 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.00 | 0.67 | 0.67 | 0.67 | 0.09 | 0.00 | 0.01 | 0.53 | 0.67 | 0.00 | 0.00 | 0.00 |

Level Of Service Module:

|              |      |      |      |       |      |      |      |      |      |      |      |      |
|--------------|------|------|------|-------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 6.7  | 6.7  | 104.0 | 3.4  | 0.0  | 15.3 | 19.1 | 22.2 | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 6.7  | 6.7  | 104.0 | 3.4  | 0.0  | 15.3 | 19.1 | 22.2 | 0.0  | 0.0  | 0.0  |
| Queue:       | 0    | 18   | 5    | 0     | 1    | 0    | 0    | 6    | 7    | 0    | 0    | 0    |

FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
PM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #3 Maritime St./ Burma St.  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.516  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 5.6  
Optimal Cycle: 47 Level Of Service: B

\*\*\*\*\*  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
-----|-----|-----|-----|  
Control: Protected Protected Protected Protected  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 1 0 1 1 0 1 0 1 1 0 1 0 0 0 0 0 0  
-----|-----|-----|-----|

Volume Module:

Base Vol: 5 905 0 0 320 5 185 0 50 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 5 905 0 0 320 5 185 0 50 0 0 0  
Added Vol: 0 218 0 0 62 0 0 0 0 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 5 1123 0 0 382 5 185 0 50 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 5 1123 0 0 382 5 185 0 50 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 5 1123 0 0 382 5 185 0 50 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.05 1.05 1.00 1.05 1.05 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 5 1179 0 0 401 5 185 0 50 0 0 0  
-----|-----|-----|-----|

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.76 0.80 1.00 1.00 0.80 0.80 0.76 1.00 0.68 1.00 1.00 1.00  
Lanes: 1.00 2.00 0.00 1.00 1.98 0.02 1.00 0.00 1.00 0.00 0.00 0.00  
Final Sat.: 1444 3040 0 1900 3003 37 1444 0 1292 0 0 0  
-----|-----|-----|-----|

Capacity Analysis Module:

Vol/Sat: 0.00 0.39 0.00 0.00 0.13 0.13 0.13 0.00 0.04 0.00 0.00 0.00  
Crit Moves: \*\*\*\* \*\*\*\* \*\*\*\*  
Green/Cycle: 0.02 0.75 0.00 0.00 0.73 0.73 0.25 0.00 0.25 0.00 0.00 0.00  
Volume/Cap: 0.18 0.52 0.00 0.00 0.18 0.18 0.52 0.00 0.16 0.00 0.00 0.00  
-----|-----|-----|-----|

Level Of Service Module:

Delay/Veh: 31.6 3.4 0.0 0.0 2.7 2.7 22.0 0.0 19.0 0.0 0.0 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 31.6 3.4 0.0 0.0 2.7 2.7 22.0 0.0 19.0 0.0 0.0 0.0  
Queue: 0 13 0 0 3 0 5 0 1 0 0 0  
\*\*\*\*\*

Table J.1-9 (Continued)

EXIST-PM.CMD      Fri Nov 1, 1996 15:45:58      Page 8-1      Traffix 6.8.0306 (c) 1996 Dowling Assoc. Licensed to Dowling Assoc., Oakland

FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
PM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #4 Maritime St./ 14th St.  
\*\*\*\*\*

Cycle (sec):      100      Critical Vol./Cap. (X):      0.590  
Loss Time (sec):      0 (Y+R = 4 sec) Average Delay (sec/veh):      13.7  
Optimal Cycle:      45      Level Of Service:      B

\*\*\*\*\*  
Approach:      North Bound      South Bound      East Bound      West Bound  
Movement:      L - T - R      L - T - R      L - T - R      L - T - R  
-----  
Control:      Protected      Protected      Permitted      Permitted  
Rights:      Include      Include      Include      Include  
Min. Green:      0      0      0      0  
Lanes:      1 0 1 1 0      1 0 1 1 0      0 0 1 0 0      1 0 0 1 0  
-----

Volume Module:  
Base Vol:      34 601 28 105 252 14 19 0 36 92 0 290  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 34 601 28 105 252 14 19 0 36 92 0 290  
Added Vol:      0 218 0 0 62 0 0 0 0 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 34 819 28 105 314 14 19 0 36 92 0 290  
User Adj:      1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj:      1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 34 819 28 105 314 14 19 0 36 92 0 290  
Reduct Vol:      0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 34 819 28 105 314 14 19 0 36 92 0 290  
PCE Adj:      1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj:      1.00 1.05 1.05 1.00 1.05 1.05 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 34 860 29 105 330 15 19 0 36 92 0 290  
-----

Saturation Flow Module:  
Sat/Lane:      1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.76 0.80 0.80 0.76 0.79 0.79 0.51 1.00 0.51 0.66 1.00 0.68  
Lanes:      1.00 1.93 0.07 1.00 1.91 0.09 0.35 0.00 0.65 1.00 0.00 1.00  
Final Sat.: 1444 2941 99 1444 2879 131 332 0 629 1262 0 1292  
-----

Capacity Analysis Module:  
Vol/Sat:      0.02 0.29 0.29 0.07 0.11 0.11 0.06 0.00 0.06 0.07 0.00 0.22  
Crit Moves:      \*\*\*\*      \*\*\*\*  
Green/Cycle: 0.11 0.50 0.50 0.12 0.51 0.51 0.38 0.00 0.38 0.38 0.00 0.38  
Volume/Cap: 0.22 0.59 0.59 0.59 0.22 0.22 0.15 0.00 0.15 0.19 0.00 0.59  
-----

Level Of Service Module:  
Delay/Veh:      26.6 12.1 12.1 30.4 8.6 8.6 13.2 0.0 13.2 13.4 0.0 17.3  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 26.6 12.1 12.1 30.4 8.6 8.6 13.2 0.0 13.2 13.4 0.0 17.3  
Queue:      1 17 1 3 5 0 0 0 1 2 0 7  
\*\*\*\*\*

FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
PM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.543  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 13.3  
Optimal Cycle: 50 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Protected   |   |   | Protected   |   |   | Protected  |   |   | Protected  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 1           | 0 | 1 | 1           | 0 | 0 | 1          | 0 | 0 | 1          | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 41   | 365  | 0    | 0    | 380  | 76   | 226  | 0    | 93   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 41   | 365  | 0    | 0    | 380  | 76   | 226  | 0    | 93   | 0    | 0    | 0    |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 62   | 218  | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 41   | 365  | 0    | 0    | 380  | 138  | 444  | 0    | 93   | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 41   | 365  | 0    | 0    | 380  | 138  | 444  | 0    | 93   | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 41   | 365  | 0    | 0    | 380  | 138  | 444  | 0    | 93   | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 41   | 383  | 0    | 0    | 399  | 145  | 444  | 0    | 93   | 0    | 0    | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.73 | 0.77 | 1.00 | 1.00 | 0.74 | 0.74 | 0.73 | 1.00 | 0.65 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 2.00 | 0.00 | 0.00 | 1.47 | 0.53 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 1388 | 2923 | 0    | 0    | 2058 | 748  | 1388 | 0    | 1242 | 0    | 0    | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.03 | 0.13 | 0.00 | 0.00 | 0.19 | 0.19 | 0.32 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.05 | 0.41 | 0.00 | 0.00 | 0.36 | 0.36 | 0.59 | 0.00 | 0.59 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.54 | 0.32 | 0.00 | 0.00 | 0.54 | 0.54 | 0.54 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 35.5 | 12.9 | 0.0  | 0.0  | 17.1 | 17.1 | 8.6  | 0.0  | 5.9  | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 35.5 | 12.9 | 0.0  | 0.0  | 17.1 | 17.1 | 8.6  | 0.0  | 5.9  | 0.0  | 0.0  | 0.0  |
| Queue:       | 1    | 7    | 0    | 0    | 9    | 3    | 8    | 0    | 1    | 0    | 0    | 0    |



Table J.1-9 (Continued)

|  |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
|--|--------------------------|------|--------------------------|-------------|-------|------|------------|------|------|------------|-----------|--|---|---|---|
| EXIST-PM.CMD   | Fri Nov 1, 1996 15:45:58 |      |                          |             |       |      |            |      |      |            | Page 10-1 | Traffix 6.8.0306 (c) 1996 Dowling Assoc. Licensed to Dowling Assoc., Oakland |   |   |   |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Existing Conditions                                    |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| PM Peak Hour   |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Level Of Service Computation Report                    |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| *****  |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Intersection #6 7th St./ 7th St. Extension             |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| *****  |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Cycle (sec):   | 100                      |      | Critical Vol./Cap. (X):  |             | 0.473 |      |            |      |      |            |           |  |   |   |   |
| Loss Time (sec):                                       | 0 (Y+R = 4 sec)          |      | Average Delay (sec/veh): |             | 17.5  |      |            |      |      |            |           |  |   |   |   |
| Optimal Cycle:   | 43                       |      | Level Of Service:        |             | C     |      |            |      |      |            |           |  |   |   |   |
| *****  |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Approach:  | North Bound              |      |                          | South Bound |       |      | East Bound |      |      | West Bound |           |  |   |   |   |
| Movement:  | L                        | -    | T                        | -           | R     | L    | -          | T    | -    | R          | L         | -  | T | - | R |
| Control:   | Protected                |      |                          | Protected   |       |      | Protected  |      |      | Protected  |           |  |   |   |   |
| Rights:  | Include                  |      |                          | Include     |       |      | Include    |      |      | Include    |           |  |   |   |   |
| Min. Green:  | 0                        | 0    | 0                        | 0           | 0     | 0    | 0          | 0    | 0    | 0          | 0         | 0  | 0 | 0 |   |
| Lanes:   | 1                        | 0    | 1                        | 1           | 0     | 1    | 0          | 1    | 1    | 0          | 1         | 0  | 2 | 1 | 0 |
| ----- ----- ----- ----- -----                          |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Volume Module:   |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Base Vol:  | 9                        | 120  | 45                       | 327         | 117   | 6    | 73         | 141  | 42   | 28         | 48        | 153  |   |   |   |
| Growth Adj:  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00  | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00   |   |   |   |
| Initial Bse:   | 9                        | 120  | 45                       | 327         | 117   | 6    | 73         | 141  | 42   | 28         | 48        | 153  |   |   |   |
| Added Vol:   | 0                        | 0    | 0                        | 0           | 0     | 0    | 0          | 0    | 0    | 0          | 0         | 0  |   |   |   |
| PasserByVol:   | 0                        | 0    | 0                        | 0           | 0     | 0    | 0          | 0    | 0    | 0          | 0         | 0  |   |   |   |
| Initial Fut:   | 9                        | 120  | 45                       | 327         | 117   | 6    | 73         | 141  | 42   | 28         | 48        | 153  |   |   |   |
| User Adj:  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00  | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00   |   |   |   |
| PHF Adj:   | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00  | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00   |   |   |   |
| PHF Volume:  | 9                        | 120  | 45                       | 327         | 117   | 6    | 73         | 141  | 42   | 28         | 48        | 153  |   |   |   |
| Reduct Vol:  | 0                        | 0    | 0                        | 0           | 0     | 0    | 0          | 0    | 0    | 0          | 0         | 0  |   |   |   |
| Reduced Vol:   | 9                        | 120  | 45                       | 327         | 117   | 6    | 73         | 141  | 42   | 28         | 48        | 153  |   |   |   |
| PCE Adj:   | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00  | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00   |   |   |   |
| MLF Adj:   | 1.00                     | 1.05 | 1.05                     | 1.00        | 1.05  | 1.05 | 1.00       | 1.10 | 1.10 | 1.00       | 1.05      | 1.00   |   |   |   |
| Final Vol.:  | 9                        | 126  | 47                       | 327         | 123   | 6    | 73         | 155  | 46   | 28         | 50        | 153  |   |   |   |
| ----- ----- ----- ----- -----                          |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Saturation Flow Module:                                |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Sat/Lane:  | 1900                     | 1900 | 1900                     | 1900        | 1900  | 1900 | 1900       | 1900 | 1900 | 1900       | 1900      | 1900   |   |   |   |
| Adjustment:  | 0.73                     | 0.74 | 0.74                     | 0.73        | 0.76  | 0.76 | 0.73       | 0.75 | 0.75 | 0.73       | 0.77      | 0.65   |   |   |   |
| Lanes:   | 1.00                     | 1.46 | 0.54                     | 1.00        | 1.91  | 0.09 | 1.00       | 2.31 | 0.69 | 1.00       | 2.00      | 1.00   |   |   |   |
| Final Sat.:  | 1388                     | 2044 | 762                      | 1388        | 2759  | 135  | 1388       | 3280 | 973  | 1388       | 2923      | 1242   |   |   |   |
| ----- ----- ----- ----- -----                          |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Capacity Analysis Module:                              |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Vol/Sat:   | 0.01                     | 0.06 | 0.06                     | 0.24        | 0.04  | 0.04 | 0.05       | 0.05 | 0.05 | 0.02       | 0.02      | 0.12   |   |   |   |
| Crit Moves:  | ****                     |      |                          | ****        |       |      | ****       |      |      | ****       |           |  |   |   |   |
| Green/Cycle:   | 0.08                     | 0.13 | 0.13                     | 0.50        | 0.55  | 0.55 | 0.11       | 0.26 | 0.26 | 0.11       | 0.26      | 0.26   |   |   |   |
| Volume/Cap:  | 0.08                     | 0.47 | 0.47                     | 0.47        | 0.08  | 0.08 | 0.47       | 0.18 | 0.18 | 0.18       | 0.07      | 0.47   |   |   |   |
| ----- ----- ----- ----- -----                          |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Level Of Service Module:                               |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |
| Delay/Veh:   | 27.5                     | 26.8 | 26.8                     | 11.0        | 6.9   | 6.9  | 28.7       | 18.6 | 18.6 | 26.1       | 18.0      | 21.0   |   |   |   |
| User DelAdj:   | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00  | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00   |   |   |   |
| AdjDel/Veh:  | 27.5                     | 26.8 | 26.8                     | 11.0        | 6.9   | 6.9  | 28.7       | 18.6 | 18.6 | 26.1       | 18.0      | 21.0   |   |   |   |
| Queue:   | 0                        | 3    | 1                        | 6           | 2     | 0    | 2          | 3    | 1    | 1          | 1         | 4  |   |   |   |
| *****  |                          |      |                          |             |       |      |            |      |      |            |           |  |   |   |   |

FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
PM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #7 Middle Harbor Rd./ Gate 2 Connection  
\*\*\*\*\*

Cycle (sec):      100      Critical Vol./Cap. (X):      0.917  
Loss Time (sec):      0 (Y+R = 4 sec) Average Delay (sec/veh):      28.4  
Optimal Cycle:      180      Level Of Service:      D  
\*\*\*\*\*

| Approach:   | North Bound |   |   |   | South Bound |   |   |   | East Bound |   |   |   | West Bound |   |   |  |
|-------------|-------------|---|---|---|-------------|---|---|---|------------|---|---|---|------------|---|---|--|
| Movement:   | L           | T | R |   | L           | T | R |   | L          | T | R |   | L          | T | R |  |
| Control:    | Protected   |   |   |   | Protected   |   |   |   | Protected  |   |   |   | Protected  |   |   |  |
| Rights:     | Include     |   |   |   | Include     |   |   |   | Include    |   |   |   | Include    |   |   |  |
| Min. Green: | 0           | 0 | 0 | 0 | 0           | 0 | 0 | 0 | 0          | 0 | 0 | 0 | 0          | 0 | 0 |  |
| Lanes:      | 1           | 0 | 0 | 0 | 1           | 0 | 0 | 0 | 0          | 0 | 1 | 1 | 0          | 1 | 0 |  |

| Volume Module: | North Bound |      |      |  | South Bound |      |      |  | East Bound |      |      |  | West Bound |      |      |  |
|----------------|-------------|------|------|--|-------------|------|------|--|------------|------|------|--|------------|------|------|--|
| Base Vol:      | 102         | 0    | 347  |  | 0           | 0    | 0    |  | 0          | 421  | 133  |  | 128        | 257  | 0    |  |
| Growth Adj:    | 1.00        | 1.00 | 1.00 |  | 1.00        | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  |
| Initial Bse:   | 102         | 0    | 347  |  | 0           | 0    | 0    |  | 0          | 421  | 133  |  | 128        | 257  | 0    |  |
| Added Vol:     | 0           | 0    | 371  |  | 0           | 0    | 0    |  | 0          | 0    | 0    |  | 106        | 0    | 0    |  |
| PasserByVol:   | 0           | 0    | 0    |  | 0           | 0    | 0    |  | 0          | 0    | 0    |  | 0          | 0    | 0    |  |
| Initial Fut:   | 102         | 0    | 718  |  | 0           | 0    | 0    |  | 0          | 421  | 133  |  | 234        | 257  | 0    |  |
| User Adj:      | 1.00        | 1.00 | 1.00 |  | 1.00        | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  |
| PHF Adj:       | 1.00        | 1.00 | 1.00 |  | 1.00        | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  |
| PHF Volume:    | 102         | 0    | 718  |  | 0           | 0    | 0    |  | 0          | 421  | 133  |  | 234        | 257  | 0    |  |
| Reduct Vol:    | 0           | 0    | 0    |  | 0           | 0    | 0    |  | 0          | 0    | 0    |  | 0          | 0    | 0    |  |
| Reduced Vol:   | 102         | 0    | 718  |  | 0           | 0    | 0    |  | 0          | 421  | 133  |  | 234        | 257  | 0    |  |
| PCE Adj:       | 1.00        | 1.00 | 1.00 |  | 1.00        | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  |
| MLF Adj:       | 1.00        | 1.00 | 1.00 |  | 1.00        | 1.00 | 1.00 |  | 1.00       | 1.05 | 1.05 |  | 1.00       | 1.05 | 1.00 |  |
| Final Vol.:    | 102         | 0    | 718  |  | 0           | 0    | 0    |  | 0          | 442  | 140  |  | 234        | 270  | 0    |  |

| Saturation Flow Module: | North Bound |      |      |  | South Bound |      |      |  | East Bound |      |      |  | West Bound |      |      |  |
|-------------------------|-------------|------|------|--|-------------|------|------|--|------------|------|------|--|------------|------|------|--|
| Sat/Lane:               | 1900        | 1900 | 1900 |  | 1900        | 1900 | 1900 |  | 1900       | 1900 | 1900 |  | 1900       | 1900 | 1900 |  |
| Adjustment:             | 0.76        | 1.00 | 0.68 |  | 1.00        | 1.00 | 1.00 |  | 1.00       | 0.77 | 0.77 |  | 0.76       | 0.80 | 1.00 |  |
| Lanes:                  | 1.00        | 0.00 | 1.00 |  | 0.00        | 0.00 | 0.00 |  | 0.00       | 1.52 | 0.48 |  | 1.00       | 2.00 | 0.00 |  |
| Final Sat.:             | 1444        | 0    | 1292 |  | 0           | 0    | 0    |  | 0          | 2216 | 702  |  | 1444       | 3040 | 0    |  |

| Capacity Analysis Module: | North Bound |      |      |  | South Bound |      |      |  | East Bound |      |      |  | West Bound |      |      |  |
|---------------------------|-------------|------|------|--|-------------|------|------|--|------------|------|------|--|------------|------|------|--|
| Vol/Sat:                  | 0.07        | 0.00 | 0.56 |  | 0.00        | 0.00 | 0.00 |  | 0.00       | 0.20 | 0.20 |  | 0.16       | 0.09 | 0.00 |  |
| Crit Moves:               | ****        |      |      |  | ****        |      |      |  | ****       |      |      |  | ****       |      |      |  |
| Green/Cycle:              | 0.61        | 0.00 | 0.61 |  | 0.00        | 0.00 | 0.00 |  | 0.00       | 0.22 | 0.22 |  | 0.18       | 0.39 | 0.00 |  |
| Volume/Cap:               | 0.12        | 0.00 | 0.92 |  | 0.00        | 0.00 | 0.00 |  | 0.00       | 0.92 | 0.92 |  | 0.92       | 0.23 | 0.00 |  |

| Level Of Service Module: | North Bound |      |      |  | South Bound |      |      |  | East Bound |      |      |  | West Bound |      |      |  |
|--------------------------|-------------|------|------|--|-------------|------|------|--|------------|------|------|--|------------|------|------|--|
| Delay/Veh:               | 5.4         | 0.0  | 22.5 |  | 0.0         | 0.0  | 0.0  |  | 0.0        | 37.9 | 37.9 |  | 51.0       | 13.0 | 0.0  |  |
| User DelAdj:             | 1.00        | 1.00 | 1.00 |  | 1.00        | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  | 1.00       | 1.00 | 1.00 |  |
| AdjDel/Veh:              | 5.4         | 0.0  | 22.5 |  | 0.0         | 0.0  | 0.0  |  | 0.0        | 37.9 | 37.9 |  | 51.0       | 13.0 | 0.0  |  |
| Queue:                   | 1           | 0    | 21   |  | 0           | 0    | 0    |  | 0          | 15   | 6    |  | 9          | 5    | 0    |  |

Table J.1-9 (Continued)

EXIST-PM.CMD      Fri Nov 1, 1996 15:45:58      Page 12-1      Traffix 6.8.0306 (c) 1996 Dowling Assoc. Licensed to Dowling Assoc., Oakland

FISCO/Port Vision 2000 EIS/EIR  
Existing Conditions  
PM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100      Critical Vol./Cap. (X): 0.505  
Loss Time (sec): 0 (Y+R = 4 sec)      Average Delay (sec/veh): 13.1  
Optimal Cycle: 46      Level Of Service: B

| Approach:   | North Bound |   |   |   | South Bound |   |   |   | East Bound  |   |   |   | West Bound  |   |   |   |   |   |   |   |
|-------------|-------------|---|---|---|-------------|---|---|---|-------------|---|---|---|-------------|---|---|---|---|---|---|---|
| Movement:   | L           | - | T | - | R           | L | - | T | -           | R | L | - | T           | - | R | L | - | T | - | R |
| Control:    | Split Phase |   |   |   | Split Phase |   |   |   | Split Phase |   |   |   | Split Phase |   |   |   |   |   |   |   |
| Rights:     | Include     |   |   |   | Include     |   |   |   | Include     |   |   |   | Include     |   |   |   |   |   |   |   |
| Min. Green: | 0           | 0 | 0 | 0 | 0           | 0 | 0 | 0 | 0           | 0 | 0 | 0 | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lanes:      | 0           | 1 | 0 | 1 | 0           | 0 | 1 | 0 | 1           | 0 | 0 | 1 | 0           | 1 | 0 | 0 | 1 | 0 | 1 | 0 |

| Volume Module: |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:      | 36   | 340  | 122  | 43   | 41   | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Growth Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse:   | 36   | 340  | 122  | 43   | 41   | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Added Vol:     | 0    | 147  | 224  | 0    | 106  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut:   | 36   | 487  | 346  | 43   | 147  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| User Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:    | 36   | 487  | 346  | 43   | 147  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Reduct Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol:   | 36   | 487  | 346  | 43   | 147  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| PCE Adj:       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:       | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:    | 38   | 512  | 363  | 45   | 154  | 16   | 30   | 14   | 13   | 89   | 39   | 78   |

| Saturation Flow Module: |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:               | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment:             | 0.72 | 0.72 | 0.72 | 0.75 | 0.75 | 0.75 | 0.73 | 0.72 | 0.72 | 0.73 | 0.69 | 0.69 |
| Lanes:                  | 0.08 | 1.12 | 0.80 | 0.42 | 1.43 | 0.15 | 1.00 | 0.52 | 0.48 | 0.84 | 0.39 | 0.77 |
| Final Sat.:             | 114  | 1541 | 1092 | 600  | 2052 | 213  | 1388 | 705  | 654  | 1163 | 510  | 1019 |

| Capacity Analysis Module: |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:                  | 0.33 | 0.33 | 0.33 | 0.08 | 0.08 | 0.08 | 0.02 | 0.02 | 0.02 | 0.08 | 0.08 | 0.08 |
| Crit Moves:               | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle:              | 0.66 | 0.66 | 0.66 | 0.15 | 0.15 | 0.15 | 0.04 | 0.04 | 0.04 | 0.15 | 0.15 | 0.15 |
| Volume/Cap:               | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 0.46 | 0.46 | 0.51 | 0.51 | 0.51 |

| Level Of Service Module: |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:               | 5.9  | 5.9  | 5.9  | 26.2 | 26.2 | 26.2 | 33.3 | 32.2 | 32.2 | 26.1 | 26.1 | 26.1 |
| User DelAdj:             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:              | 5.9  | 5.9  | 5.9  | 26.2 | 26.2 | 26.2 | 33.3 | 32.2 | 32.2 | 26.1 | 26.1 | 26.1 |
| Queue:                   | 1    | 7    | 5    | 1    | 4    | 1    | 1    | 0    | 0    | 2    | 1    | 2    |

Table J.1-10

**FISCO/Port Vision 2000 EIS/EIR**  
**Train Traffic At Roadway Crossings**  
**Existing Weekdays (After UP/SP Merger)**

| Crossing Street       | Number of Trains in Both Directions |     |           |      |             |       | Train Speed (mph) |                       |
|-----------------------|-------------------------------------|-----|-----------|------|-------------|-------|-------------------|-----------------------|
|                       | Passenger *                         |     | Freight * |      | Switchers * | Total | Passenger         | Freight/<br>Switchers |
|                       | 1200                                | 600 | 6000      | 1200 | 300         |       |                   |                       |
| 1. Cutting Boulevard  | 4                                   | 16  | 12        |      |             | 32    | 60                | 60                    |
| 2. Gilman Street      | 4                                   | 16  | 12        | 4    | 4           | 40    | 60                | 60                    |
| 3. Camelia Street     | 4                                   | 16  | 12        | 4    | 4           | 40    | 60                | 60                    |
| 4. Cedar Street       | 4                                   | 16  | 12        | 4    | 4           | 40    | 60                | 60                    |
| 5. Virginia Street    | 4                                   | 16  | 12        | 4    | 4           | 40    | 60                | 60                    |
| 6. Hearst Avenue      | 4                                   | 16  | 12        | 4    | 4           | 40    | 60                | 60                    |
| 7. Addison Street     | 4                                   | 16  | 12        | 4    | 4           | 40    | 60                | 60                    |
| 8. Bancroft Way       | 4                                   | 16  | 12        | 4    | 4           | 40    | 60                | 60                    |
| 9. 67th Street        | 4                                   | 16  | 12        | 4    | 4           | 40    | 45                | 45                    |
| 10. 66th Street       | 4                                   | 16  | 12        | 4    | 4           | 40    | 45                | 45                    |
| 11. 65th Street       | 4                                   | 16  | 12        | 4    | 4           | 40    | 45                | 45                    |
| 12. Market Street     | 10                                  | 26  | 4         | 4    |             | 44    | 15                | 15                    |
| 13. M. L. King Blvd.  | 10                                  | 26  | 4         | 4    |             | 44    | 15                | 15                    |
| 14. Clay Street       | 10                                  | 26  | 4         | 4    |             | 44    | 15                | 15                    |
| 15. Washington Street | 10                                  | 26  | 4         | 4    |             | 44    | 15                | 15                    |
| 16. Broadway          | 10                                  | 26  | 4         | 4    |             | 44    | 15                | 15                    |
| 17. Franklin Street   | 10                                  | 26  | 4         | 4    |             | 44    | 15                | 15                    |
| 18. Webster Street    | 10                                  | 26  | 4         | 4    |             | 44    | 15                | 15                    |
| 19. Oak Street        | 10                                  | 26  | 4         | 4    |             | 44    | 15                | 15                    |
| 20. 5th Avenue        | 2                                   | 6   | 4         | 4    |             | 16    | 40                | 20                    |
| 21. 29th Avenue       | 2                                   | 6   | 4         | 4    |             | 16    | 60                | 40                    |
| 22. Fruitvale Avenue  | 2                                   | 6   | 4         | 4    |             | 16    | 60                | 40                    |
| 23. 37th Avenue       | 2                                   | 6   | 4         | 4    |             | 16    | 60                | 40                    |

\* Values shown below train type represent the length of each train in feet.

Source: Nolte and Associates 1996



Table J.1-11

**FISCO/Port Vision 2000 EIS/EIR**  
**Gate Down Time At Roadway Crossings**  
**Existing Weekdays (After UP/SP Merger)**

| Crossing Street         | Gate Down Time Per Train (minutes) |     |      |      |             | Total Gate Down Time (min./day) |
|-------------------------|------------------------------------|-----|------|------|-------------|---------------------------------|
|                         | Passenger *                        |     |      |      | Switchers * |                                 |
|                         | 1200                               | 600 | 6000 | 1200 | 300         |                                 |
| 1. Cutting Boulevard    | 0.7                                | 0.6 | 1.6  | 0.0  | 0.0         | 32                              |
| 2. Gilman Street        | 0.7                                | 0.6 | 1.6  | 0.7  | 0.6         | 37                              |
| 3. Camelia Street       | 0.7                                | 0.6 | 1.6  | 0.7  | 0.6         | 37                              |
| 4. Cedar Street         | 0.7                                | 0.6 | 1.6  | 0.7  | 0.6         | 37                              |
| 5. Virginia Street      | 0.7                                | 0.6 | 1.6  | 0.7  | 0.6         | 37                              |
| 6. Hearst Avenue        | 0.7                                | 0.6 | 1.6  | 0.7  | 0.6         | 37                              |
| 7. Addison Street       | 0.7                                | 0.6 | 1.6  | 0.7  | 0.6         | 37                              |
| 8. Bancroft Way         | 0.7                                | 0.6 | 1.6  | 0.7  | 0.6         | 37                              |
| 9. 67th Street          | 0.8                                | 0.7 | 2.0  | 0.8  | 0.6         | 44                              |
| 10. 66th Street         | 0.8                                | 0.7 | 2.0  | 0.8  | 0.6         | 44                              |
| 11. 65th Street         | 0.8                                | 0.7 | 2.0  | 0.8  | 0.6         | 44                              |
| 12. Market Street       | 1.4                                | 1.0 | 5.0  | 1.4  | 0.0         | 66                              |
| 13. M. L. King Blvd.    | 1.4                                | 1.0 | 5.0  | 1.4  | 0.0         | 66                              |
| 14. Clay Street         | 1.4                                | 1.0 | 5.0  | 1.4  | 0.0         | 66                              |
| 15. Washington Street** | 1.4                                | 1.0 | 5.0  | 1.4  | 0.0         | 66                              |
| 16. Broadway**          | 1.4                                | 1.0 | 5.0  | 1.4  | 0.0         | 66                              |
| 17. Franklin Street**   | 1.4                                | 1.0 | 5.0  | 1.4  | 0.0         | 66                              |
| 18. Webster Street      | 1.4                                | 1.0 | 5.0  | 1.4  | 0.0         | 66                              |
| 19. Oak Street          | 1.4                                | 1.0 | 5.0  | 1.4  | 0.0         | 66                              |
| 20. 5th Avenue          | 0.8                                | 0.7 | 3.9  | 1.2  | 0.0         | 26                              |
| 21. 29th Avenue         | 0.7                                | 0.6 | 2.2  | 0.8  | 0.0         | 17                              |
| 22. Fruitvale Avenue    | 0.7                                | 0.6 | 2.2  | 0.8  | 0.0         | 17                              |
| 23. 37th Avenue         | 0.7                                | 0.6 | 2.2  | 0.8  | 0.0         | 17                              |

\* Values shown below train type represent the length of each train in feet.

\*\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Source: Nolte and Associates 1996

Gate Down Time Per Train =  $(a + b / 1.47 / c) / 60$

where, a = 30 seconds track clearance time

b = train length (ft.)

c = train speed (mph)

Table J.1-12

**FISCO/Port Vision 2000 EIS/EIR**  
**Traffic Volumes at Railroad Crossings**  
**Existing Weekdays (After UP/SP Merger)**

| Crossing Street       | Jurisdiction | Average Daily Traffic for Year Traffic Was Counted | Year Traffic Was Counted | Average Daily Traffic (1996) |
|-----------------------|--------------|--|--------------------------|------------------------------|
| 1. Cutting Boulevard  | Richmond     | 26,892   | 1994                     | 27,430                       |
| 2. Gilman Street      | Berkeley     | 17,413   | 1986                     | 19,150                       |
| 3. Camelia Street     | Berkeley     |  | 1996 (Estimated Max.)    | 2,000                        |
| 4. Cedar Street       | Berkeley     | 3,413  | 1986                     | 3,750                        |
| 5. Virginia Street    | Berkeley     | 1,584  | 1986                     | 1,740                        |
| 6. Hearst Avenue      | Berkeley     | 5,758  | 1986                     | 6,330                        |
| 7. Addison Street     | Berkeley     |  | 1996 (Estimated Max.)    | 2,000                        |
| 8. Bancroft Way       | Berkeley     |  | 1996 (Estimated Max.)    | 2,000                        |
| 9. 67th Street        | Emeryville   |  | 1996 (Estimated Max.)    | 2,000                        |
| 10. 66th Street       | Emeryville   |  | 1996 (Estimated Max.)    | 2,000                        |
| 11. 65th Street       | Emeryville   |  | 1995                     | 2,700                        |
| 12. Market Street     | Oakland      | 3,655  | 1996                     | 3,660                        |
| 13. M. L. King Blvd.  | Oakland      | 309  | 1976                     | 340                          |
| 14. Clay Street       | Oakland      | 1,531  | 1977                     | 1,680                        |
| 15. Washington Street | Oakland      | 613  | 1976                     | 670                          |
| 16. Broadway          | Oakland      | 11,833   | 1978                     | 12,900                       |
| 17. Franklin Street   | Oakland      | 1,626  | 1976                     | 1,790                        |
| 18. Webster Street    | Oakland      | 3,111  | 1974                     | 3,450                        |
| 19. Oak Street        | Oakland      | 3,340  | 1976                     | 3,670                        |
| 20. 5th Avenue        | Oakland      | 6,224  | 1976                     | 6,850                        |
| 21. 29th Avenue       | Oakland      | 9,034  | 1990                     | 9,310                        |
| 22. Fruitvale Avenue  | Oakland      | 22,304   | 1993                     | 22,640                       |
| 23. 37th Avenue       | Oakland      | 1,070  | 1994                     | 1,080                        |

Sources: City Traffic/Planning staffs for the jurisdictions shown.

Note: Escalation factors were applied to escalate counts to 1996 estimated values as follows:

Cities of Richmond & Berkeley - 1% per year; City of Oakland 1/2% per year.

Table J.1-13

**FISCO/Port Vision 2000 EIS/EIR**  
**Vehicle Delay at Railroad Crossings**  
**Existing Weekdays (After UP/SP Merger)**

| Crossing Street        | Jurisdiction | Average<br>Daily Traffic<br>(1996) | Total Gate<br>Down Time<br>(min./day) | Vehicular<br>Delay<br>(hours/day) |
|------------------------|--------------|------------------------------------|---------------------------------------|-----------------------------------|
| 1. Cutting Boulevard   | Richmond     | 27,430                             | 32                                    | 9.9                               |
| 2. Gilman Street       | Berkeley     | 19,150                             | 37                                    | 7.5                               |
| 3. Camelia Street      | Berkeley     | 2,000                              | 37                                    | 0.8                               |
| 4. Cedar Street        | Berkeley     | 3,750                              | 37                                    | 1.5                               |
| 5. Virginia Street     | Berkeley     | 1,740                              | 37                                    | 0.7                               |
| 6. Hearst Avenue       | Berkeley     | 6,330                              | 37                                    | 2.5                               |
| 7. Addison Street      | Berkeley     | 2,000                              | 37                                    | 0.8                               |
| 8. Bancroft Way        | Berkeley     | 2,000                              | 37                                    | 0.8                               |
| 9. 67th Street         | Emeryville   | 2,000                              | 44                                    | 1.1                               |
| 10. 66th Street        | Emeryville   | 2,000                              | 44                                    | 1.1                               |
| 11. 65th Street        | Emeryville   | 2,700                              | 44                                    | 1.5                               |
| 12. Market Street      | Oakland      | 3,660                              | 66                                    | 4.1                               |
| 13. M. L. King Blvd.   | Oakland      | 340                                | 66                                    | 0.4                               |
| 14. Clay Street        | Oakland      | 1,680                              | 66                                    | 1.9                               |
| 15. Washington Street* | Oakland      | 670                                | 66                                    | 0.8                               |
| 16. Broadway*          | Oakland      | 12,900                             | 66                                    | 14.6                              |
| 17. Franklin Street*   | Oakland      | 1,790                              | 66                                    | 2.0                               |
| 18. Webster Street     | Oakland      | 3,450                              | 66                                    | 3.9                               |
| 19. Oak Street         | Oakland      | 3,670                              | 66                                    | 4.2                               |
| 20. 5th Avenue         | Oakland      | 6,850                              | 26                                    | 3.4                               |
| 21. 29th Avenue        | Oakland      | 9,310                              | 17                                    | 1.9                               |
| 22. Fruitvale Avenue   | Oakland      | 22,640                             | 17                                    | 4.7                               |
| 23. 37th Avenue        | Oakland      | 1,080                              | 17                                    | 0.2                               |
| Total Delay            |              |                                    |                                       | 70.3                              |

\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.

Nolte and Associates 1996

Dowling Associates 1996

## **Appendix J.2**

### **Marine Terminal Traffic Analysis**





# Marine Terminal Traffic Analysis

## Fleet Industrial Supply Center, Oakland (FISCO) Disposal and Reuse EIS/EIR

Project W96021

October 28, 1996

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This report was prepared by Jordan Woodman Dobson for the Port of Oakland. JWD is working for Tetra Tech in the development of an EIS / EIR for the Port.

#### Quality Assurance

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# 1. Overview

## 1.1 INTRODUCTION

This report provides data in support of the Traffic Impact section of the Environmental Impact Statement and Report (EIS/EIR) for the redevelopment of the Naval Fleet Industrial Supply Center, Oakland (FISCO).

The proposed FISCO site redevelopment includes plans for new marine terminals along the Port of Oakland's Inner Harbor Channel, as well as the development of a new Joint Intermodal Rail Terminal (JIT). The new marine terminals are expected to generate traffic to and from the new JIT and to and from regional roads and highways.

Jordan Woodman Dobson (JWD) was contracted to estimate volumes of automobile and truck traffic that can be generated by existing and new marine terminal developments in 1996 and 2010. JWD estimated peak-day traffic generated by marine terminals in four zones: Outer Harbor, 7th Street, Middle Harbor, and a New Terminal Area.

The "peak day" was assumed to be an average day during a peak traffic week. Three time periods during a peak gate day were of particular interest: the morning peak, 7 AM to 9 AM; the evening peak, 4 PM to 6 PM; and the lunch peak, 11 AM to 12 noon.

## 1.2 PROCESS

### TRUCK TRAFFIC

Truck traffic for 1996 is estimated from 1995 data by assuming a uniform increase in container throughput per terminal and ratio of truck trips to ship lifts.

Truck traffic for 2010 was estimated by assuming that container shipping will grow at the rate predicted by the *San Francisco Bay Area Seaport Plan* prepared by Multitrans Corporation in 1994. The number of ship moves to rail was assumed to be variable with at least 5% of ship traffic moving by rail. The number of ship moves by road to local markets was assumed to be fixed. Total volumes were adjusted to not exceed the capacity of each option as determined by JWD.

The marine terminal areas within the Port were grouped into four zones, summarized in Table 1.1.

| Zone              | Code   | Zone | Terminals                         |
|-------------------|--------|------|-----------------------------------|
| New Terminal Area | NT     | 1    | To Be Built                       |
| Middle Harbor     | MH     | 6    | APL, Howard                       |
| 7th Street        | 7th St | 7    | TraPac, Matson, MTC               |
| Outer Harbor      | OH     | 8    | Sea-Land, Yusen, Maersk, TransBay |

Table 1.1  
Port of Oakland Terminals and Zones

Four alternative FISCO redevelopment plans are under consideration for New Terminal Area, Zone 1. These include four alternatives labeled Options A through D, as well as a No-Build option. The acreages for these options were based on proposed development plans presented in the EIS/EIR document.

The acreages of the existing marine terminals in Zones 6 through 8 were taken from the 1996 edition of *Lloyds Ports of the World*. According to Tetra Tech, Inc., the size of the existing terminals would not increase between now and 2010, except in Development Alternative B where Zone 8 was assumed to expand by 22 acres.

The daily truck trips were distributed over the course of a day according to an observed truck arrival pattern, and a derived truck departure pattern based on the arrival pattern and a truck turnaround time. JWD used data collected in 1996 at Marine Terminals Corporation's (MTC) 7th Street terminal to estimate the hourly truck traffic arrival and departure patterns for terminals.

#### CAR TRAFFIC

Car traffic at the Port was estimated based on terminal acreage, information regarding terminal employment, and assumptions about trips generated per employee. Car traffic was distributed over the course of the day according to traffic counts on roads within the Port of Oakland. These counts were provided by Dowling Associates.



## 2. Analysis Data and Assumptions

### 2.1 THROUGHPUT

#### 1995 THROUGHPUT

Table 2.1 shows statistics about the container terminals at the Port of Oakland for 1995. There were approximately 1.75 twenty-foot equivalent units (TEUs) per container, indicating that approximately 75% of containers were 40 feet long and 25% of containers were 20 feet long.

| Zone                      | Terminal | Gross Area<br>(acres) | 1995 Thruput<br>(ship lifts) | Thruput per Gross Acre<br>(conts) | Thruput per Gross Acre<br>(TEUs) |
|---------------------------|----------|-----------------------|------------------------------|-----------------------------------|----------------------------------|
| Zone 6<br>(Middle Harbor) | APL      | 82.8                  | 162,407                      | 1,961                             | 3,433                            |
|                           | Howard   | 48.9                  | 94,359                       | 1,930                             | 3,375                            |
| <b>Subtotal</b>           |          | <b>131.7</b>          | <b>256,766</b>               | <b>1,950</b>                      | <b>3,413</b>                     |
| Zone 7<br>(7th Street)    | TraPac   | 34.6                  | 39,377                       | 1,138                             | 1,992                            |
|                           | Matson   | 65.5                  | 93,158                       | 1,422                             | 2,490                            |
|                           | MTC      | 56.6                  | 136,301                      | 2,408                             | 4,215                            |
| <b>Subtotal</b>           |          | <b>156.7</b>          | <b>268,836</b>               | <b>1,716</b>                      | <b>3,003</b>                     |
| Zone 8<br>(Outer Harbor)  | Sea Land | 65.5                  | 111,146                      | 1,697                             | 2,970                            |
|                           | Yusen    | 40.0                  | 83,502                       | 2,088                             | 3,650                            |
|                           | Maersk   | 45.7                  | 71,031                       | 1,554                             | 2,970                            |
|                           | TransBay | 29.2                  | 57,255                       | 1,961                             | 3,436                            |
| <b>Subtotal</b>           |          | <b>180.3</b>          | <b>322,934</b>               | <b>1,791</b>                      | <b>3,134</b>                     |
| <b>Total</b>              |          | <b>468.7</b>          | <b>848,536</b>               | <b>1,810</b>                      | <b>3,168</b>                     |

Table 2.1  
1995 Terminal Statistics

The Port as a whole handled about 1,500,000 stevedoring TEUs with 470 gross acres of marine terminal, or 3,200 TEUs per acre per year.

#### 1996 THROUGHPUT

The 1996 throughput volume was calculated by increasing the 1995 throughput at each terminal by an assumed growth rate of 7%.

## 2010 THROUGHPUT

Throughput volume for 2010 was estimated based on the container shipping growth projections from the Seaport Plan. The future container volumes were expressed in terms of metric tons of cargo per year instead of the more common TEUs.

Table 2.2 converts the projections from the Seaport Plan into containers based on the ratio of containers to forecast tonnage in 1995.

| Year          | 1995       | 2000       | 2005       | 2010       |
|---------------|------------|------------|------------|------------|
| Metric Tons   | 11,191,000 | 14,334,000 | 18,282,000 | 22,227,000 |
| Containers    | 848,536    | 1,086,848  | 1,386,197  | 1,685,319  |
| Annual Growth |            | 5.1%       | 5.0%       | 4.0%       |

Table 2.2  
Container Volume Forecast - Seaport Plan

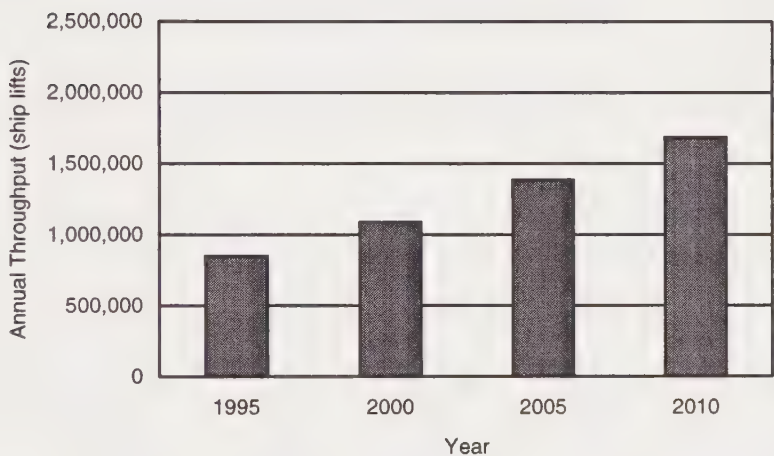


Figure 2.1  
Projected Container Traffic - Seaport Plan

## 2.2 OVER-THE-ROAD VS. RAIL TRAFFIC

When containers arrive in the Port they either travel to their ultimate destination by truck or are drayed by truck to nearby intermodal rail yards for inland transport. For purposes of this traffic study, these two types of moves are referred to as "Over the Road" (OTR) and "Rail" moves.

OTR containers have destinations in the area served by the Port of Oakland. JWD assumed that these containers will continue to arrive in the San Francisco Bay ports regardless of future development at the Port of Oakland.

Rail moves are bound for final destinations as far away as the East Coast. The volume of this traffic moving through the Port of Oakland will depend on the attractiveness of Oakland as a rail gateway compared with other West Coast ports.

The *Port of Oakland Joint Intermodal Terminal Operational Analysis Report* (January, 1995) indicates that 148,500 containers used rail facilities in the Port of Oakland in 1994, corresponding to roughly 20% of total Port throughput. OTR moves comprised the remaining 80% of ship lifts in 1994.

The Seaport Plan makes no mention of the relationship between OTR and Rail traffic. JWD assumed that OTR traffic would constitute 80% of the Seaport Plan projected container traffic.

If the Port improves its attractiveness to Rail traffic by building the JIT, Rail traffic through Oakland would likely increase. Similarly, Rail traffic would decrease if terminals become congested by OTR moves.

The upper bound on Rail traffic through the Port of Oakland was calculated as the minimum of:

1. *The capacity of nearby railyards.* The estimated capacity of the Joint Intermodal Terminal in 2010 has been set at 1.2 million lifts per year.
2. *The capacity of the marine terminals.* JWD estimated the capacity of terminals at the Port of Oakland in 2010 as 4,700 TEUs, or 2,685 ship lifts, per acre per year. This is 500 TEUs per acre more than the busiest terminal handled in 1996.
3. *The potential market for intermodal cargo.* This factor is perhaps the most difficult to estimate but JWD projects the fraction of Port traffic that moves by rail will not be higher than 40% of the total traffic in 2010. This is twice the Rail traffic ratio that the Port experienced in 1994.

The lower bound on rail demand was set at 5% of the total marine terminal traffic, reflecting a portion of maritime traffic that would move by rail through the Port of Oakland regardless of congestion caused by OTR demand.

## PORT CAPACITY

Table 2.3 illustrates the total capacity of each of the proposed development Options, based on 4,700 TEUs per acre per year. The terminal acreage within the Outer Harbor, 7<sup>th</sup> Street, and Middle Harbor Zones remains the same between 1996 and 2010 for Options A, C, and D, and the No-Build Option. Terminals are developed within the New Terminal Area Zone in Options A, B, C, and D. In Option B, an additional 22 acres of terminal are developed in the Outer Harbor Zone.

| Zone                       | No-Build  | Option A  | Option B  | Option C  | Option D  |
|----------------------------|-----------|-----------|-----------|-----------|-----------|
| 1 - New Terminal Area      | 0         | 260       | 100       | 290       | 278       |
| 6 - Middle Harbor          | 132       | 132       | 132       | 132       | 132       |
| 7 - 7 <sup>th</sup> Street | 157       | 157       | 157       | 157       | 157       |
| 8 - Outer Harbor           | 180       | 180       | 202       | 180       | 180       |
| Total Acreage              | 469       | 729       | 591       | 759       | 747       |
| Total Capacity (moves)     | 1,260,000 | 1,960,000 | 1,590,000 | 2,040,000 | 2,010,000 |

Table 2.3  
Terminal Acreages and Capacities

Figure 2.2 depicts the terminal acreages graphically. Figure 2.3 depicts the terminal capacities graphically.

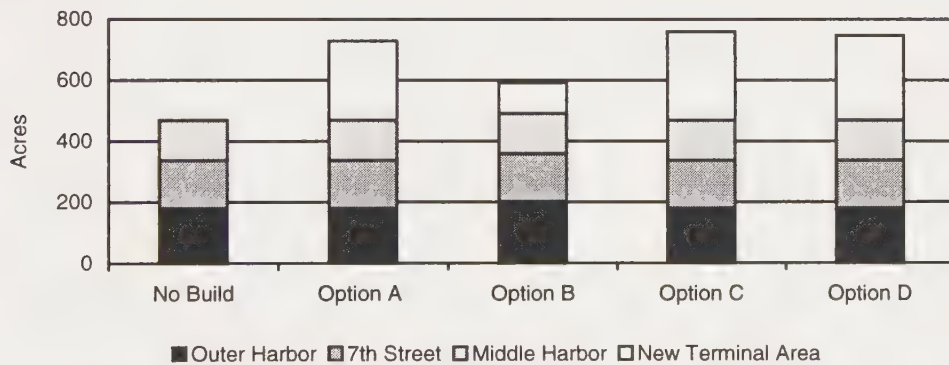


Figure 2.2  
Terminal Acreages



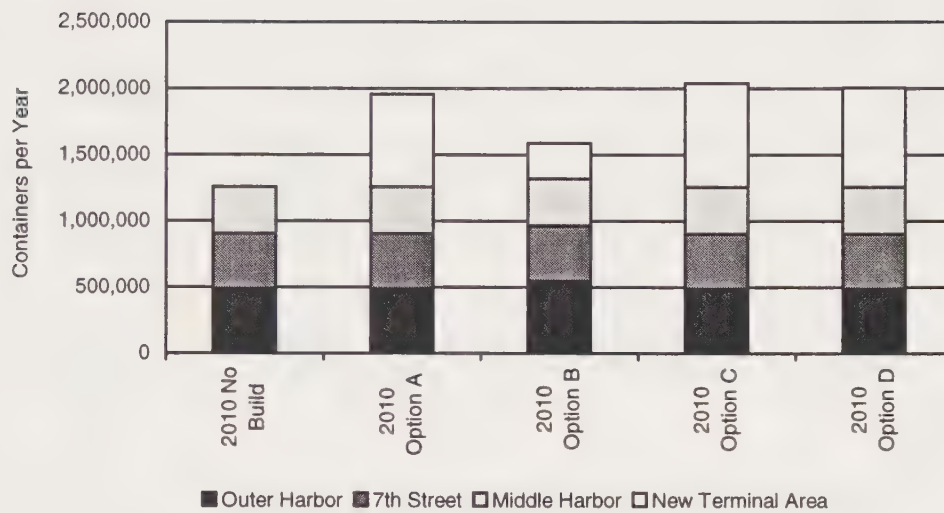


Figure 2.3  
Terminal Capacities

Figure 2.4 shows the relationship between capacities for the various options, the lower-bound potential demand, and upper-bound demands #1 and #3.

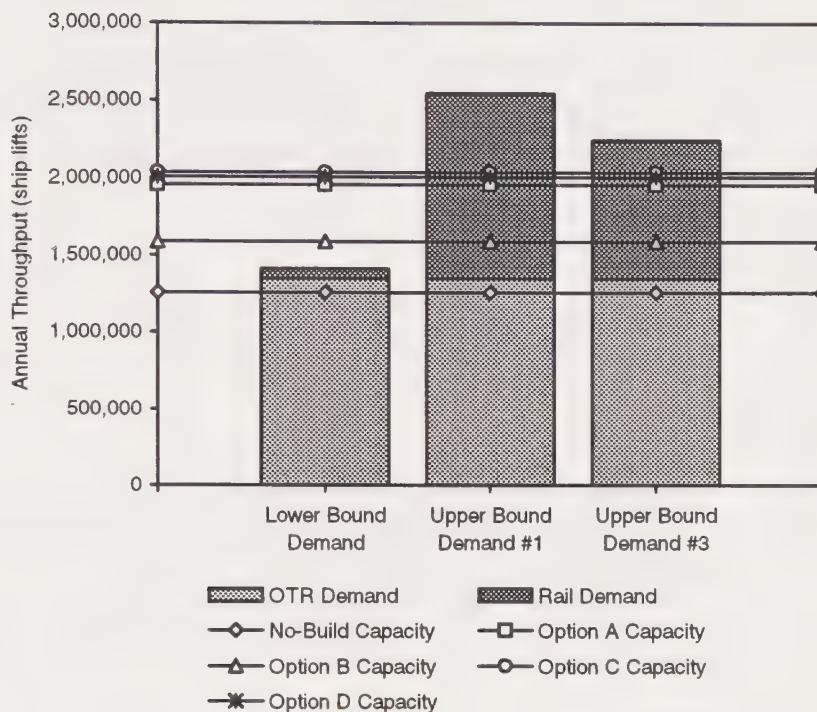


Figure 2.4  
Port Capacity vs. Potential 2010 Demand

Figure 2.4 shows:

The OTR demand in 2010 exceeds the marine terminal capacities of the No-Build Option.

The upper-bound demands fixed by the JIT capacity (#1) and the rail market potential (#3) will exceed the capacities of all options.

These relationships imply that Rail demand in 2010, and therefore Port demand, will be limited by the overall capacities of the marine terminals, as summarized in Table 2.3, rather than by the other factors.

Table 2.4 summarizes the 2010 total demand, and its breakdown into OTR and Rail traffic, for each option. For the No-Build Option, it was assumed that all but 5% of Rail traffic would be handled by other Ports. In addition, it should be noted that about 152,000 OTR lifts in the No-Build Option would be handled at other Bay Area Ports such as Richmond or San Francisco.

| Zone                           | No-Build  | Option A  | Option B  | Option C  | Option D  |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|
| OTR Traffic - Oakland          | 1,196,000 | 1,348,000 | 1,348,000 | 1,348,000 | 1,348,000 |
| Rail Traffic - Oakland         | 64,000    | 612,000   | 242,000   | 692,000   | 662,000   |
| Total Traffic - Oakland        | 1,260,000 | 1,960,000 | 1,590,000 | 2,040,000 | 2,010,000 |
| Rail / Total Traffic - Oakland | 5.0%      | 31.2%     | 15.2%     | 33.9%     | 32.9%     |
| OTR Traffic -Other Bay Ports   | 152,000   | 0         | 0         | 0         | 0         |

Table 2.4  
Projected Port Traffic 2010

## 2.3 TRUCK TRAFFIC

Peak truck traffic was calculated for 1996 and 2010 based on several assumptions regarding terminal operations drawn from historical data and JWD's experience and professional judgment.

*Gate Operating Schedule:* Terminals gates were assumed to operate 52 weeks per year and five days per week.

*Peak Week Factor:* The peak week has 1.25 times as many ship lifts as the average week.

*Gate Transactions to Ship Lift Ratio:* Each ship lift generates 1.33 container transactions through the gate. The ratio is not 1.0 because the marine terminals act as storage depots for empty containers that may move in and out of the terminal without generating a ship lift, as shown in Figure 2.5.

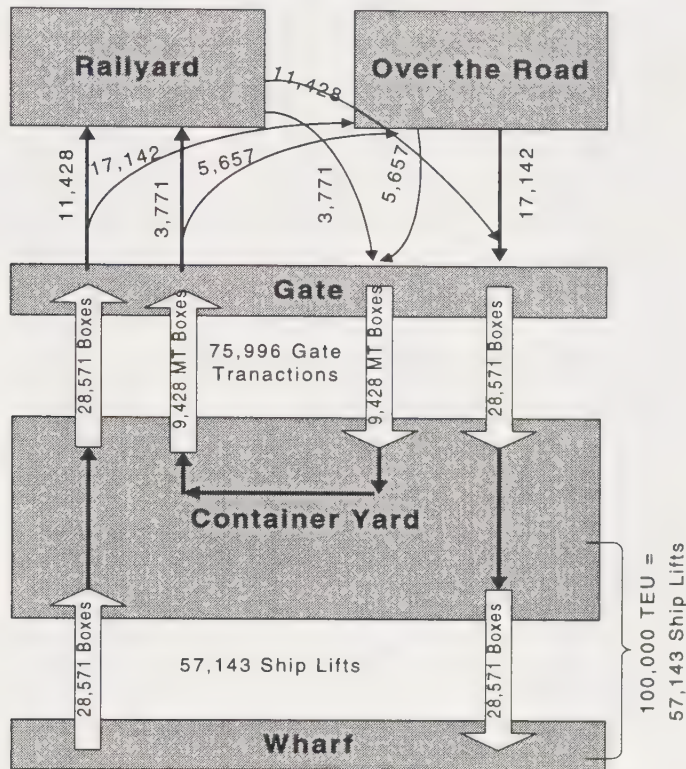


Figure 2.5  
Container Flow at the Port of Oakland, 2010



*Truck Trips to Gate Transactions Ratio:* Each gate transaction in 1996 generates an average of 1.7 truck trips. Truck trips include trucks that enter or leave the terminal with or without a container. The ratio is not 2.0 because some trucks both deliver and retrieve containers from the terminal in a single visit as described in Table 2.5 and Figure 2.5. The fraction of OTR vs. Rail trips (and therefore the overall weighted average of truck trips per gate transaction) will vary with each development alternative.

|                                  | 1996 |      | 2010     |          |
|----------------------------------|------|------|----------|----------|
|                                  | OTR  | Rail | OTR      | Rail     |
| Fraction of Ship Lifts           | 80%  | 20%  | Variable | Variable |
| Fraction of Hauls 1-way          | 65%  | 90%  | 65%      | 90%      |
| Fraction of Hauls 2-way          | 35%  | 10%  | 35%      | 10%      |
| Truck Trips per Gate Transaction | 1.65 | 1.90 | 1.65     | 1.90     |

Table 2.5  
Truck Trips per Gate Transaction

Figure 2.6 describes the 80%/20% split found in 1996 as an illustration of the relationship between truck trips and gate transactions.

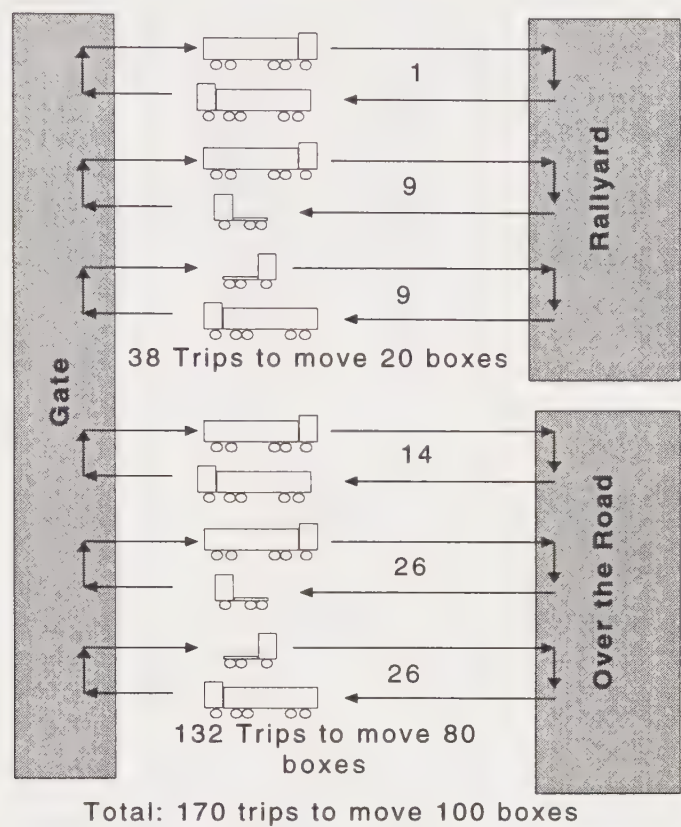


Figure 2.6  
Gate Transactions vs. Truck Trips

Table 2.6 shows how these factors were used to estimate truck trips for the Port in 2010 under each development option.

| Item               | Factor | No Build  | A         | B         | C         | D         |
|--------------------|--------|-----------|-----------|-----------|-----------|-----------|
| Annual Thruput     |        | 1,258,925 | 1,957,211 | 1,586,582 | 2,037,782 | 2,005,554 |
| Weekly Thruput     | 1/52   | 24,210    | 37,639    | 30,511    | 39,188    | 38,568    |
| Pk Week Thruput    | 1.25   | 30,263    | 47,048    | 38,139    | 48,985    | 48,210    |
| Avg Day Thruput    | 1/5    | 6,053     | 9,410     | 7,628     | 9,797     | 9,642     |
| Daily Gate Moves   | 1.33   | 8,050     | 12,515    | 10,145    | 13,030    | 12,824    |
| OTR Fraction       |        | 95.0%     | 68.9%     | 85.0%     | 66.2%     | 67.2%     |
| Rail Fraction      |        | 5.0%      | 31.1%     | 15.0%     | 33.8%     | 32.8%     |
| Gate moves OTR     |        | 7,647     | 8,621     | 8,621     | 8,621     | 8,621     |
| Gate moves to Rail |        | 402       | 3,894     | 1,524     | 4,409     | 4,203     |
| Trips OTR          | 1.65   | 12,618    | 14,225    | 14,225    | 14,225    | 14,225    |
| Trips to Rail      | 1.90   | 765       | 7,398     | 2,895     | 8,377     | 7,986     |
| Total Truck Trips  |        | 13,383    | 21,623    | 17,120    | 22,602    | 22,210    |

Table 2.6  
Calculation of 2010 Daily Truck Trips from Annual Throughput

Peak truck trips were calculated for each zone based on the acreages of each zone. Table 2.7 shows the fraction of total Port area at each Zone and Table 2.8 shows the number of truck trips generated by each zone. Figure 2.7 shows the calculated daily truck trips by zone.

| Zone                  | 2010<br>No Bld | 2010<br>Opt A | 2010<br>Opt B | 2010<br>Opt C | 2010<br>Opt D |
|-----------------------|----------------|---------------|---------------|---------------|---------------|
| 1 - New Terminal Area | 0.0%           | 35.7%         | 16.9%         | 38.2%         | 37.2%         |
| 6 - Middle Harbor     | 28.1%          | 18.1%         | 22.3%         | 17.4%         | 17.6%         |
| 7 - 7th Street        | 33.4%          | 21.5%         | 26.5%         | 20.6%         | 21.0%         |
| 8 - Outer Harbor      | 38.5%          | 24.8%         | 34.3%         | 23.8%         | 24.2%         |
| Total                 | 100.0%         | 100.0%        | 100.0%        | 100.0%        | 100.0%        |

Table 2.7  
Fraction of Port Area in Each Zone - 2010

| Zone                  | 2010<br>No Bld | 2010<br>Opt A | 2010<br>Opt B | 2010<br>Opt C | 2010<br>Opt D |
|-----------------------|----------------|---------------|---------------|---------------|---------------|
| 1 - New Terminal Area | 0              | 7,715         | 2,898         | 8,639         | 8,268         |
| 6 - Middle Harbor     | 3,760          | 3,908         | 3,817         | 3,923         | 3,917         |
| 7 - 7th Street        | 4,473          | 4,648         | 4,540         | 4,667         | 4,660         |
| 8 - Outer Harbor      | 5,150          | 5,352         | 5,865         | 5,373         | 5,365         |
| Total Truck Trips     | 13,383         | 21,623        | 17,120        | 22,602        | 22,210        |

Table 2.8  
2010 Daily Truck Trips During Peak Week

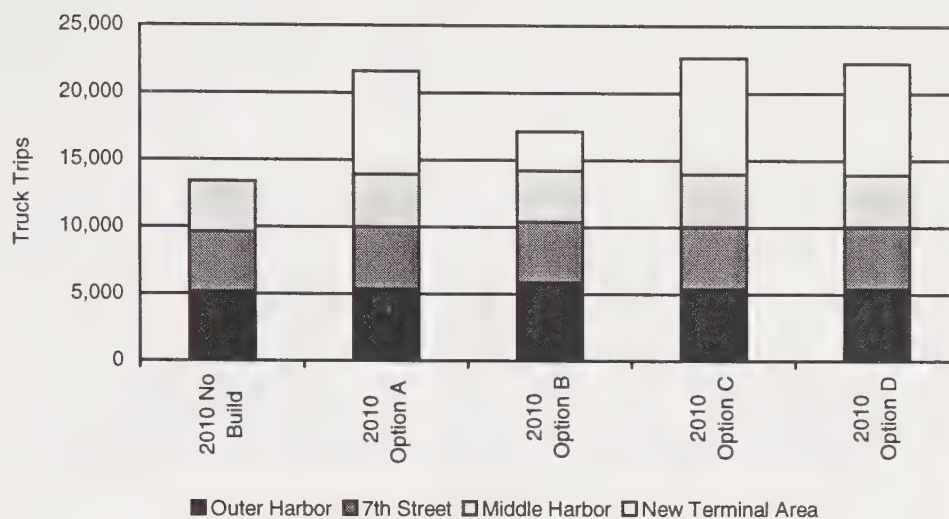


Figure 2.7  
2010 Daily Truck Trips During Peak Week

## 2.4 TRUCK ARRIVAL AND DEPARTURE PATTERNS

Truck arrival and departure patterns were used to distribute daily truck trips over the course of the day. A truck arrival pattern observed at MTC's 7th Street terminal was used as the arrival pattern for all terminals. MTC's 7th Street terminal gate operates during the day only. This is the current practice at the Port of Oakland terminals and it was assumed to continue into 2010. The truck arrival pattern was applied to the total daily truck arrivals estimated for each terminal to distribute Port truck trips by hour.

A truck departure pattern was estimated from the truck arrival pattern, assuming that truck departures would take place 30 minutes after arrival.



Figures 2.8 and 2.9 respectively show the arrival and departure patterns of truck trips. Traffic is heavy after the terminal opens, is light during lunch, and trails off toward gate closing time.

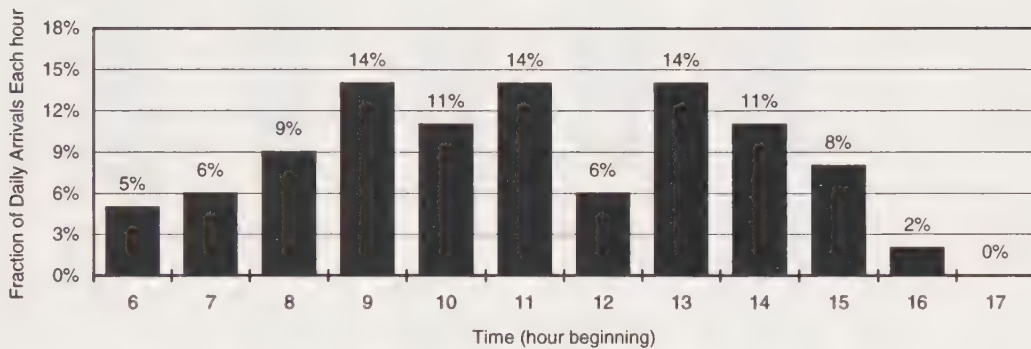


Figure 2.8  
Truck Arrival Pattern

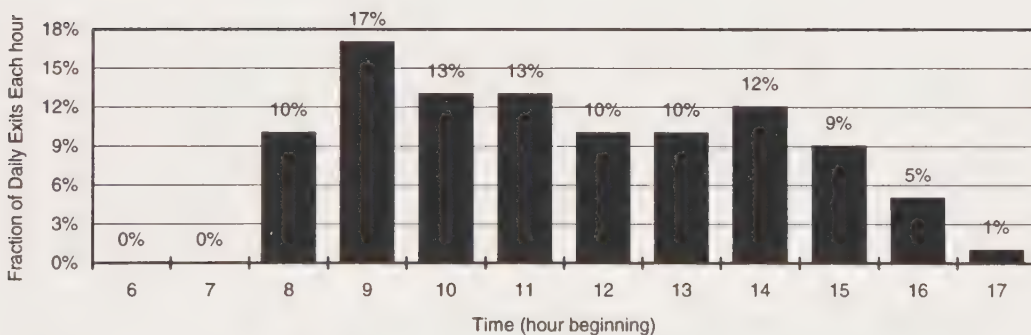


Figure 2.9  
Truck Departure Pattern

## 2.5 PORT CAR TRIP GENERATION

The calculation of car trips to and from the terminals was based on terminal acreage, an estimate of the number of employees per acre, and the number of daily car trips per employee.

## EMPLOYMENT AT TERMINALS

In 1996, in a “unit” terminal of 50 acres, JWD estimates that 120 employees work the day shift and 55 work the night shift when a ship is on berth. When there is no ship on berth, 60 employees work the day shift and 0 work the night shift.

The number of employees working the “unit” (50-acre terminal) is expected to increase at the same rate as the increase in terminal productivity (2.6% per year). This employment information is presented in Table 2.9.

| Year | Ship on Berth |       | No Ship on Berth |       |
|------|---------------|-------|------------------|-------|
|      | Day           | Night | Day              | Night |
| 1996 | 120           | 55    | 60               | 0     |
| 2010 | 172           | 79    | 86               | 0     |

Table 2.9  
Marine Terminal Employment

During peak periods, JWD estimates that two-thirds of the terminals will have a ship on-berth.

## DAILY CAR TRIPS

Table 2.10 shows the number of daily car trips generated based on the employment at a 50-acre unit terminal, and assumes an average of 3.5 employee trips per day. This estimate considers the fact that nearly all marine terminal employees drive alone to work. In addition, many employees leave the terminal during lunch. Terminal visitors also generate some auto trips.

|                  | Ship<br>on Berth<br>2/3 | No Ship<br>on Berth<br>1/3 | Average |
|------------------|-------------------------|----------------------------|---------|
| Fraction of Time |                         |                            |         |
| Year             |                         |                            |         |
| 1996             | 613                     | 210                        | 478     |
| 2010             | 877                     | 301                        | 685     |

Table 2.10  
Peak Daily Car Trip Generation for a 50-Acre Terminal Unit

## DISTRIBUTION OF CAR TRIPS

The distribution of car trips throughout the day, shown in Table 2.11, reflects employees' work schedules. These fractions were derived from traffic counts on Port of Oakland roads taken by Dowling Associates. The percentage indicates what fraction of the total daily auto trips occur as an entry or exit in the given hour.

|             | Entries to<br>Terminal | Exits from<br>Terminal |
|-------------|------------------------|------------------------|
| 0600 - 0700 | 7.3%                   | 0.4%                   |
| 0700 - 0800 | 8.4%                   | 0.4%                   |
| 0800 - 0900 | 4.9%                   | 0.3%                   |
| 0900 - 1000 | 4.2%                   | 0.5%                   |
| 1000 - 1100 | 3.2%                   | 2.1%                   |
| 1100 - 1200 | 3.4%                   | 3.4%                   |
| 1100 - 1300 | 3.7%                   | 3.7%                   |
| 1300 - 1400 | 3.1%                   | 3.1%                   |
| 1400 - 1500 | 1.3%                   | 5.1%                   |
| 1500 - 1600 | 0.4%                   | 7.6%                   |
| 1600 - 1700 | 0.4%                   | 7.4%                   |
| 1700 - 1800 | 0.7%                   | 5.9%                   |
| 0600 - 1800 | 41.0%                  | 39.9%                  |

Table 2.11  
Car Trip Distribution

Figure 2.10 illustrates the distribution of car trips.

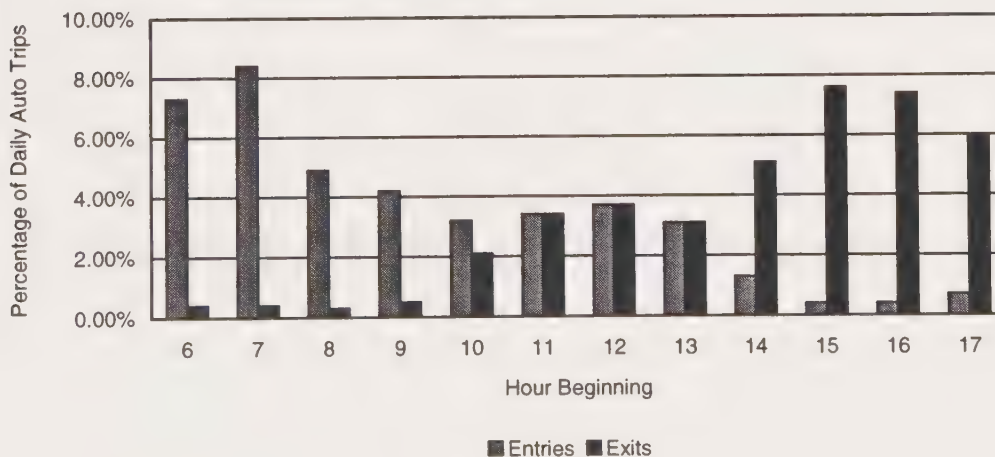


Figure 2.10  
Distribution of Car Trips Throughout Day

### 3. Analysis Results

This section summarizes the results for both truck and auto trips in order to estimate total marine terminal traffic in 1996 and 2010.

#### 3.1 1996 TRAFFIC

Table 3.1 shows peak truck trips for existing zones for key hours during the day broken down by entries and exits.

| Zone:     | 6 - Middle Harbor |       | 7 - 7th Street |       | 8 - Outer Harbor |       |
|-----------|-------------------|-------|----------------|-------|------------------|-------|
|           | Entries           | Exits | Entries        | Exits | Entries          | Exits |
| 0600-0700 | 73                | 0     | 76             | 0     | 91               | 0     |
| 0700-0800 | 90                | 0     | 94             | 0     | 113              | 0     |
| 0800-0900 | 140               | 149   | 147            | 156   | 176              | 188   |
| 0900-1000 | 206               | 252   | 216            | 264   | 259              | 317   |
| 1000-1100 | 169               | 187   | 177            | 196   | 212              | 236   |
| 1100-1200 | 213               | 191   | 223            | 200   | 268              | 240   |
| 1200-1300 | 88                | 150   | 92             | 157   | 110              | 189   |
| 1300-1400 | 209               | 149   | 219            | 156   | 263              | 187   |
| 1400-1500 | 160               | 185   | 168            | 194   | 202              | 233   |
| 1500-1600 | 115               | 138   | 120            | 144   | 144              | 173   |
| 1600-1700 | 30                | 73    | 32             | 76    | 38               | 91    |
| 1700-1800 | 0                 | 15    | 0              | 16    | 0                | 19    |

Table 3.1  
1996 Peak - Daily Truck Trips During Peak Week by Zone

Table 3.2 describes the total peak truck traffic moving to and from the rail yards in 1996.

|                   | Total Truck Trips | Truck Trips for Rail Yard |
|-------------------|-------------------|---------------------------|
| Middle Harbor (6) | 2,987             | 668                       |
| 7th Street (7)    | 3,127             | 699                       |
| Outer Harbor (8)  | 3,756             | 840                       |
| Total             | 9,870             | 2,207                     |

Table 3.2  
1996 Peak - Daily Truck Traffic During Peak Week to Rail Yard



Table 3.3 shows the distribution of peak car trips associated with Port employment in 1996.

| Zone:            | 6 - Middle Harbor |           | 7 - 7th Street |            | 8 - Outer Harbor |            |
|------------------|-------------------|-----------|----------------|------------|------------------|------------|
|                  | Entries           | Exits     | Entries        | Exits      | Entries          | Exits      |
| 0600-0700        | 93                | 5         | 110            | 6          | 127              | 7          |
| <b>0700-0800</b> | <b>106</b>        | <b>6</b>  | <b>126</b>     | <b>7</b>   | <b>145</b>       | <b>8</b>   |
| <b>0800-0900</b> | <b>62</b>         | <b>3</b>  | <b>73</b>      | <b>4</b>   | <b>85</b>        | <b>4</b>   |
| 0900-1000        | 52                | 6         | 62             | 7          | 72               | 8          |
| 1000-1100        | 40                | 27        | 48             | 32         | 55               | 37         |
| <b>1100-1200</b> | <b>43</b>         | <b>43</b> | <b>51</b>      | <b>51</b>  | <b>58</b>        | <b>58</b>  |
| 1200-1300        | 47                | 47        | 56             | 56         | 64               | 64         |
| 1300-1400        | 39                | 39        | 46             | 46         | 53               | 53         |
| 1400-1500        | 16                | 65        | 19             | 77         | 22               | 89         |
| 1500-1600        | 5                 | 96        | 6              | 114        | 7                | 131        |
| <b>1600-1700</b> | <b>5</b>          | <b>94</b> | <b>6</b>       | <b>112</b> | <b>7</b>         | <b>128</b> |
| <b>1700-1800</b> | <b>8</b>          | <b>74</b> | <b>10</b>      | <b>88</b>  | <b>11</b>        | <b>101</b> |

Table 3.3  
1996 Peak - Daily Car Trips During Peak Week by Zone

Table 3.4 and Figure 3.1 illustrate the distribution of peak truck and car trips for the Port as a whole throughout the day.

|                  | Truck<br>Entries | Truck<br>Exits | Total<br>Truck<br>Trips | Car<br>Entries | Car<br>Exits | Total<br>Car<br>Trips |
|------------------|------------------|----------------|-------------------------|----------------|--------------|-----------------------|
| 0600-0700        | 240              | 0              | 240                     | 329            | 17           | 347                   |
| <b>0700-0800</b> | <b>296</b>       | <b>0</b>       | <b>296</b>              | <b>376</b>     | <b>20</b>    | <b>396</b>            |
| <b>0800-0900</b> | <b>463</b>       | <b>493</b>     | <b>957</b>              | <b>220</b>     | <b>12</b>    | <b>231</b>            |
| 0900-1000        | 681              | 834            | 1,515                   | 187            | 21           | 208                   |
| 1000-1100        | 558              | 620            | 1,178                   | 143            | 95           | 238                   |
| <b>1100-1200</b> | <b>703</b>       | <b>631</b>     | <b>1,334</b>            | <b>152</b>     | <b>152</b>   | <b>304</b>            |
| 1200-1300        | 290              | 497            | 787                     | 167            | 167          | 334                   |
| 1300-1400        | 692              | 491            | 1,183                   | 138            | 138          | 277                   |
| 1400-1500        | 530              | 611            | 1,142                   | 58             | 231          | 288                   |
| 1500-1600        | 380              | 455            | 835                     | 18             | 341          | 359                   |
| <b>1600-1700</b> | <b>100</b>       | <b>240</b>     | <b>341</b>              | <b>18</b>      | <b>334</b>   | <b>351</b>            |
| <b>1700-1800</b> | <b>0</b>         | <b>50</b>      | <b>50</b>               | <b>29</b>      | <b>262</b>   | <b>292</b>            |

Table 3.4  
1996 Peak - Daily Truck and Car Trips During Peak Week by Hour of Day for the Whole Port

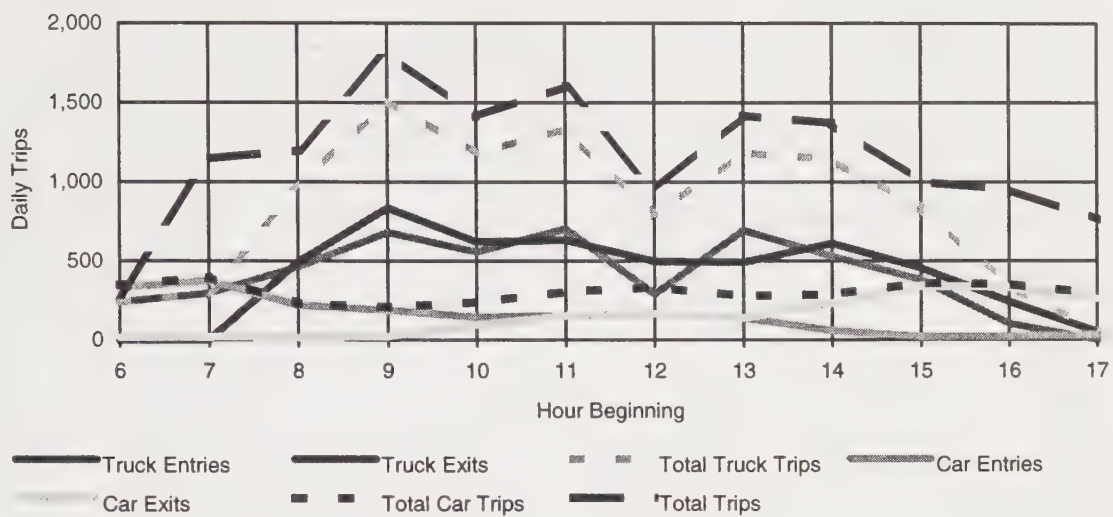


Figure 3.1  
1996 Peak - Daily Port Car and Truck Trips During Peak Week

### 3.2 2010 TRAFFIC

Tables 3.5 through 3.9 describe peak daily truck and car traffic for each option in 2010.

| Zone:         | 1<br>New Terminal |       | 6<br>Middle Harbor |       | 7<br>7th Street |       | 8<br>Outer Harbor |       |
|---------------|-------------------|-------|--------------------|-------|-----------------|-------|-------------------|-------|
|               | Entries           | Exits | Entries            | Exits | Entries         | Exits | Entries           | Exits |
| <b>TRUCKS</b> |                   |       |                    |       |                 |       |                   |       |
| 7-8           | 0                 | 0     | 113                | 0     | 134             | 0     | 154               | 0     |
| 8-9           | 0                 | 0     | 177                | 188   | 210             | 224   | 242               | 257   |
| 9-10          | 0                 | 0     | 259                | 318   | 309             | 378   | 355               | 435   |
| 10-11         | 0                 | 0     | 213                | 236   | 253             | 281   | 291               | 323   |
| 11-12         | 0                 | 0     | 268                | 240   | 319             | 286   | 367               | 329   |
| 12-13         | 0                 | 0     | 111                | 189   | 132             | 225   | 151               | 259   |
| 13-14         | 0                 | 0     | 264                | 187   | 314             | 223   | 361               | 256   |
| 14-15         | 0                 | 0     | 202                | 233   | 240             | 277   | 277               | 319   |
| 15-16         | 0                 | 0     | 145                | 173   | 172             | 206   | 198               | 237   |
| 16-17         | 0                 | 0     | 38                 | 91    | 46              | 109   | 52                | 125   |
| 17-18         | 0                 | 0     | 0                  | 19    | 0               | 23    | 0                 | 26    |
| <b>CARS</b>   |                   |       |                    |       |                 |       |                   |       |
| 7-8           | 0                 | 0     | 151                | 8     | 180             | 9     | 207               | 11    |
| 8-9           | 0                 | 0     | 88                 | 5     | 105             | 6     | 121               | 6     |
| 9-10          | 0                 | 0     | 75                 | 8     | 89              | 10    | 103               | 11    |
| 10-11         | 0                 | 0     | 57                 | 38    | 68              | 46    | 79                | 52    |
| 11-12         | 0                 | 0     | 61                 | 61    | 73              | 73    | 84                | 84    |
| 12-13         | 0                 | 0     | 67                 | 67    | 80              | 80    | 92                | 92    |
| 13-14         | 0                 | 0     | 56                 | 56    | 66              | 66    | 76                | 76    |
| 14-15         | 0                 | 0     | 23                 | 93    | 28              | 110   | 32                | 127   |
| 15-16         | 0                 | 0     | 7                  | 137   | 9               | 163   | 10                | 188   |
| 16-17         | 0                 | 0     | 7                  | 134   | 8               | 160   | 10                | 184   |
| 17-18         | 0                 | 0     | 12                 | 106   | 14              | 126   | 16                | 145   |

Table 3.5  
Daily Trips During Peak Week - No-Build Option

| Zone:         | 1<br>New Terminal |       | 6<br>Middle Harbor |       | 7<br>7th Street |       | 8<br>Outer Harbor |       |
|---------------|-------------------|-------|--------------------|-------|-----------------|-------|-------------------|-------|
|               | Entries           | Exits | Entries            | Exits | Entries         | Exits | Entries           | Exits |
| <b>TRUCKS</b> |                   |       |                    |       |                 |       |                   |       |
| 7-8           | 231               | 0     | 117                | 0     | 139             | 0     | 160               | 0     |
| 8-9           | 362               | 386   | 183                | 195   | 218             | 232   | 251               | 268   |
| 9-10          | 532               | 652   | 270                | 330   | 321             | 393   | 369               | 452   |
| 10-11         | 436               | 484   | 221                | 245   | 263             | 292   | 303               | 336   |
| 11-12         | 550               | 493   | 279                | 250   | 331             | 297   | 381               | 342   |
| 12-13         | 227               | 388   | 115                | 197   | 137             | 234   | 157               | 269   |
| 13-14         | 541               | 384   | 274                | 195   | 326             | 231   | 375               | 266   |
| 14-15         | 415               | 478   | 210                | 242   | 250             | 288   | 288               | 331   |
| 15-16         | 297               | 356   | 150                | 180   | 179             | 214   | 206               | 247   |
| 16-17         | 79                | 188   | 40                 | 95    | 47              | 113   | 54                | 130   |
| 17-18         | 0                 | 39    | 0                  | 20    | 0               | 24    | 0                 | 27    |
| <b>CARS</b>   |                   |       |                    |       |                 |       |                   |       |
| 7-8           | 299               | 16    | 151                | 8     | 180             | 9     | 207               | 11    |
| 8-9           | 175               | 9     | 88                 | 5     | 105             | 6     | 121               | 6     |
| 9-10          | 148               | 16    | 75                 | 8     | 89              | 10    | 103               | 11    |
| 10-11         | 113               | 76    | 57                 | 38    | 68              | 46    | 79                | 52    |
| 11-12         | 121               | 121   | 61                 | 61    | 73              | 73    | 84                | 84    |
| 12-13         | 133               | 133   | 67                 | 67    | 80              | 80    | 92                | 92    |
| 13-14         | 110               | 110   | 56                 | 56    | 66              | 66    | 76                | 76    |
| 14-15         | 46                | 183   | 23                 | 93    | 28              | 110   | 32                | 127   |
| 15-16         | 14                | 271   | 7                  | 137   | 9               | 163   | 10                | 188   |
| 16-17         | 14                | 265   | 7                  | 134   | 8               | 160   | 10                | 184   |
| 17-18         | 23                | 208   | 12                 | 106   | 14              | 126   | 16                | 145   |

Table 3.6  
Daily Trips During Peak Week - Option A



| Zone:         | 1<br>New Terminal |       | 6<br>Middle Harbor |       | 7<br>7th Street |       | 8<br>Outer Harbor |       |
|---------------|-------------------|-------|--------------------|-------|-----------------|-------|-------------------|-------|
|               | Entries           | Exits | Entries            | Exits | Entries         | Exits | Entries           | Exits |
| <b>TRUCKS</b> |                   |       |                    |       |                 |       |                   |       |
| 7-8           | 87                | 0     | 114                | 0     | 136             | 0     | 176               | 0     |
| 8-9           | 136               | 145   | 179                | 191   | 213             | 227   | 275               | 293   |
| 9-10          | 200               | 245   | 263                | 323   | 313             | 384   | 405               | 496   |
| 10-11         | 164               | 182   | 216                | 240   | 257             | 285   | 332               | 368   |
| 11-12         | 207               | 185   | 272                | 244   | 324             | 290   | 418               | 375   |
| 12-13         | 85                | 146   | 112                | 192   | 134             | 229   | 173               | 295   |
| 13-14         | 203               | 144   | 268                | 190   | 318             | 226   | 411               | 292   |
| 14-15         | 156               | 179   | 205                | 236   | 244             | 281   | 315               | 363   |
| 15-16         | 111               | 134   | 147                | 176   | 175             | 209   | 226               | 270   |
| 16-17         | 30                | 70    | 39                 | 93    | 46              | 110   | 60                | 143   |
| 17-18         | 0                 | 15    | 0                  | 19    | 0               | 23    | 0                 | 30    |
| <b>CARS</b>   |                   |       |                    |       |                 |       |                   |       |
| 7-8           | 115               | 6     | 152                | 8     | 180             | 9     | 232               | 12    |
| 8-9           | 67                | 4     | 89                 | 5     | 105             | 6     | 136               | 7     |
| 9-10          | 57                | 6     | 75                 | 8     | 89              | 10    | 116               | 13    |
| 10-11         | 44                | 29    | 58                 | 38    | 68              | 46    | 88                | 59    |
| 11-12         | 46                | 46    | 61                 | 61    | 73              | 73    | 94                | 94    |
| 12-13         | 51                | 51    | 67                 | 67    | 80              | 80    | 103               | 103   |
| 13-14         | 42                | 42    | 56                 | 56    | 66              | 66    | 86                | 86    |
| 14-15         | 18                | 70    | 23                 | 93    | 28              | 110   | 36                | 143   |
| 15-16         | 5                 | 104   | 7                  | 138   | 9               | 163   | 11                | 211   |
| 16-17         | 5                 | 102   | 7                  | 135   | 8               | 160   | 11                | 206   |
| 17-18         | 9                 | 80    | 12                 | 106   | 14              | 126   | 18                | 162   |

Table 3.7  
Daily Trips During Peak Week - Option B

| Zone:         | 1<br>New Terminal |       | 6<br>Middle Harbor |       | 7<br>7th Street |       | 8<br>Outer Harbor |       |
|---------------|-------------------|-------|--------------------|-------|-----------------|-------|-------------------|-------|
|               | Entries           | Exits | Entries            | Exits | Entries         | Exits | Entries           | Exits |
| <b>TRUCKS</b> |                   |       |                    |       |                 |       |                   |       |
| 7-8           | 259               | 0     | 118                | 0     | 140             | 0     | 161               | 0     |
| 8-9           | 406               | 432   | 184                | 196   | 219             | 233   | 252               | 269   |
| 9-10          | 596               | 730   | 271                | 332   | 322             | 394   | 371               | 454   |
| 10-11         | 489               | 542   | 222                | 246   | 264             | 293   | 304               | 337   |
| 11-12         | 616               | 552   | 280                | 251   | 333             | 298   | 383               | 343   |
| 12-13         | 254               | 435   | 115                | 197   | 137             | 235   | 158               | 270   |
| 13-14         | 606               | 430   | 275                | 195   | 327             | 232   | 377               | 267   |
| 14-15         | 464               | 535   | 211                | 243   | 251             | 289   | 289               | 333   |
| 15-16         | 332               | 398   | 151                | 181   | 179             | 215   | 207               | 248   |
| 16-17         | 88                | 210   | 40                 | 95    | 48              | 113   | 55                | 131   |
| 17-18         | 0                 | 44    | 0                  | 20    | 0               | 24    | 0                 | 27    |
| <b>CARS</b>   |                   |       |                    |       |                 |       |                   |       |
| 7-8           | 333               | 18    | 151                | 8     | 180             | 9     | 207               | 11    |
| 8-9           | 195               | 10    | 88                 | 5     | 105             | 6     | 121               | 6     |
| 9-10          | 166               | 18    | 75                 | 8     | 89              | 10    | 103               | 11    |
| 10-11         | 127               | 84    | 57                 | 38    | 68              | 46    | 79                | 52    |
| 11-12         | 134               | 134   | 61                 | 61    | 73              | 73    | 84                | 84    |
| 12-13         | 148               | 148   | 67                 | 67    | 80              | 80    | 92                | 92    |
| 13-14         | 123               | 123   | 56                 | 56    | 66              | 66    | 76                | 76    |
| 14-15         | 51                | 204   | 23                 | 93    | 28              | 110   | 32                | 127   |
| 15-16         | 16                | 303   | 7                  | 137   | 9               | 163   | 10                | 188   |
| 16-17         | 16                | 296   | 7                  | 134   | 8               | 160   | 10                | 184   |
| 17-18         | 26                | 232   | 12                 | 106   | 14              | 126   | 16                | 145   |

Table 3.8  
Daily Trips During Peak Week - Option C

| Zone:         | 1<br>New Terminal |       | 6<br>Middle Harbor |       | 7<br>7th Street |       | 8<br>Outer Harbor |       |
|---------------|-------------------|-------|--------------------|-------|-----------------|-------|-------------------|-------|
|               | Entries           | Exits | Entries            | Exits | Entries         | Exits | Entries           | Exits |
| <b>TRUCKS</b> |                   |       |                    |       |                 |       |                   |       |
| 7-8           | 248               | 0     | 117                | 0     | 140             | 0     | 161               | 0     |
| 8-9           | 388               | 413   | 184                | 196   | 219             | 233   | 252               | 268   |
| 9-10          | 571               | 699   | 270                | 331   | 322             | 394   | 370               | 453   |
| 10-11         | 468               | 519   | 222                | 246   | 264             | 293   | 303               | 337   |
| 11-12         | 589               | 528   | 279                | 250   | 332             | 298   | 382               | 343   |
| 12-13         | 243               | 416   | 115                | 197   | 137             | 235   | 158               | 270   |
| 13-14         | 580               | 412   | 275                | 195   | 327             | 232   | 376               | 267   |
| 14-15         | 444               | 512   | 210                | 243   | 250             | 289   | 288               | 332   |
| 15-16         | 318               | 381   | 151                | 181   | 179             | 215   | 206               | 247   |
| 16-17         | 84                | 201   | 40                 | 95    | 47              | 113   | 55                | 130   |
| 17-18         | 0                 | 42    | 0                  | 20    | 0               | 24    | 0                 | 27    |
| <b>CARS</b>   |                   |       |                    |       |                 |       |                   |       |
| 7-8           | 319               | 17    | 151                | 8     | 180             | 9     | 207               | 11    |
| 8-9           | 187               | 10    | 88                 | 5     | 105             | 6     | 121               | 6     |
| 9-10          | 159               | 18    | 75                 | 8     | 89              | 10    | 103               | 11    |
| 10-11         | 121               | 81    | 57                 | 38    | 68              | 46    | 79                | 52    |
| 11-12         | 129               | 129   | 61                 | 61    | 73              | 73    | 84                | 84    |
| 12-13         | 142               | 142   | 67                 | 67    | 80              | 80    | 92                | 92    |
| 13-14         | 118               | 118   | 56                 | 56    | 66              | 66    | 76                | 76    |
| 14-15         | 49                | 196   | 23                 | 93    | 28              | 110   | 32                | 127   |
| 15-16         | 15                | 290   | 7                  | 137   | 9               | 163   | 10                | 188   |
| 16-17         | 15                | 284   | 7                  | 134   | 8               | 160   | 10                | 184   |
| 17-18         | 25                | 223   | 12                 | 106   | 14              | 126   | 16                | 145   |

Table 3.9  
Daily Trips During Peak Week - Option D

Figure 3.2 illustrates the total truck trips and automobile trips for the different options.

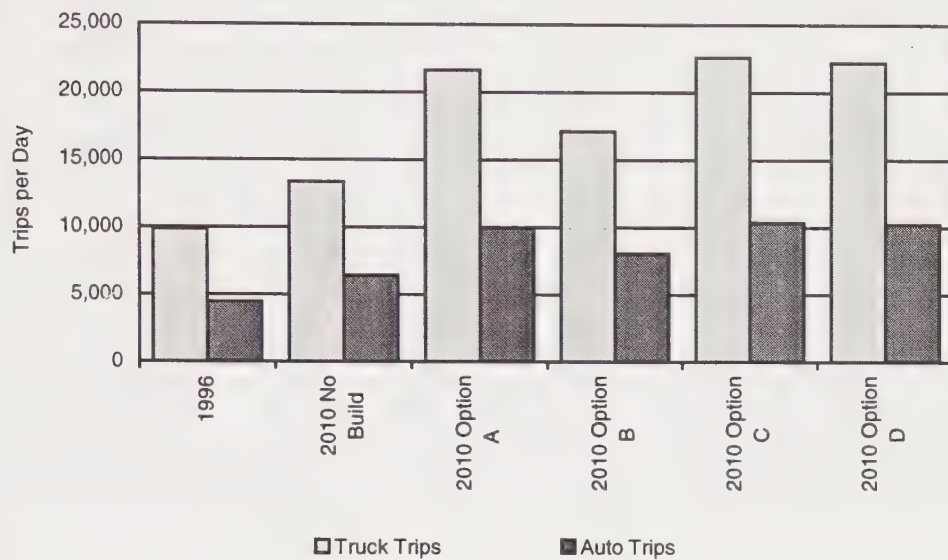


Figure 3.2  
Daily Truck and Car Trips During Peak Week



Table 3.10 describes the total daily truck traffic during a peak week that moves from the zones to nearby rail yards in 2010.

| Zone                     | 1<br>NT | 6<br>MH | 7<br>7th St | 8<br>OH | Total  |
|--------------------------|---------|---------|-------------|---------|--------|
| <b>NO-BUILD OPTION</b>   |         |         |             |         |        |
| Total Truck Trips        | 0       | 3,760   | 4,473       | 5,150   | 13,383 |
| Truck Trips to Rail Yard | 0       | 215     | 256         | 294     | 765    |
| <b>OPTION A</b>          |         |         |             |         |        |
| Total Truck Trips        | 7,715   | 3,908   | 4,648       | 5,352   | 21,623 |
| Truck Trips to Rail Yard | 2,640   | 1,337   | 1,590       | 1,831   | 7,398  |
| <b>OPTION B</b>          |         |         |             |         |        |
| Total Truck Trips        | 2,898   | 3,817   | 4,540       | 5,865   | 17,120 |
| Truck Trips to Rail Yard | 490     | 646     | 768         | 992     | 2,895  |
| <b>OPTION C</b>          |         |         |             |         |        |
| Total Truck Trips        | 8,639   | 3,923   | 4,667       | 5,373   | 22,602 |
| Truck Trips to Rail Yard | 3,202   | 1,454   | 1,730       | 1,992   | 8,377  |
| <b>OPTION D</b>          |         |         |             |         |        |
| Total Truck Trips        | 8,268   | 3,917   | 4,660       | 5,365   | 22,210 |
| Truck Trips to Rail Yard | 2,973   | 1,408   | 1,675       | 1,929   | 7,986  |

Table 3.10  
2010 Daily Truck Traffic During Peak Week

Figure 3.3 illustrates the total daily truck trips and trips to the Rail Yards for each option.

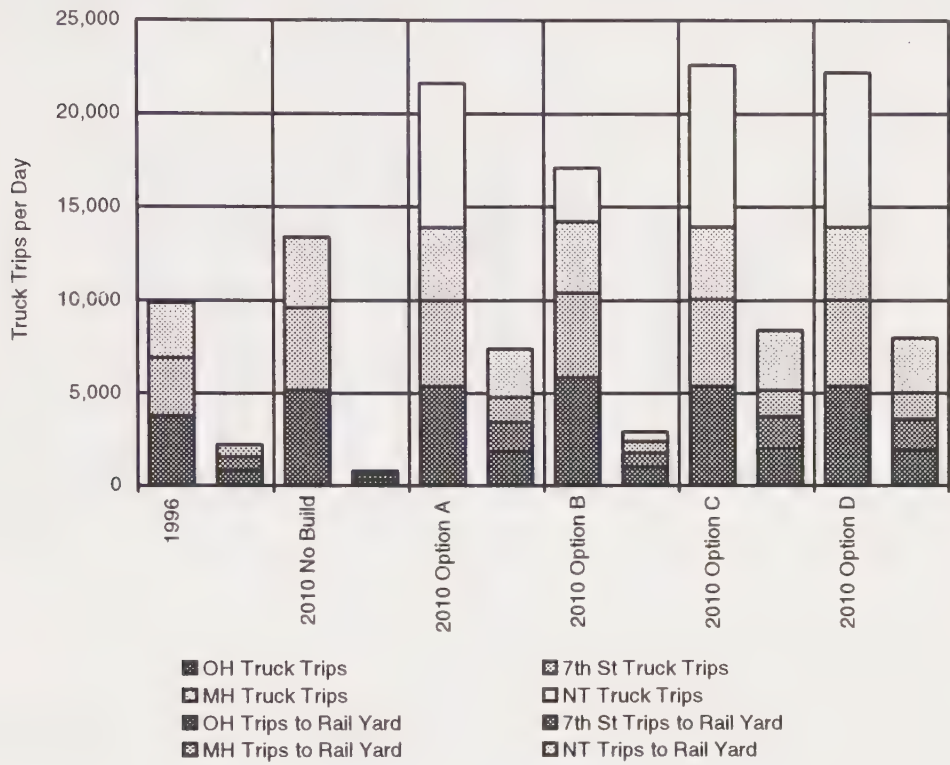


Figure 3.3  
Daily Truck Trips During Peak Week

## APPENDIX A: PROJECTED SHIP CALLS AT THE PORT OF OAKLAND IN 2010

JWD has estimated future ship call statistics based on data from 1988 through 1995 provided by the Port of Oakland. Statistics on lifts per call are shown in Figure A.1.

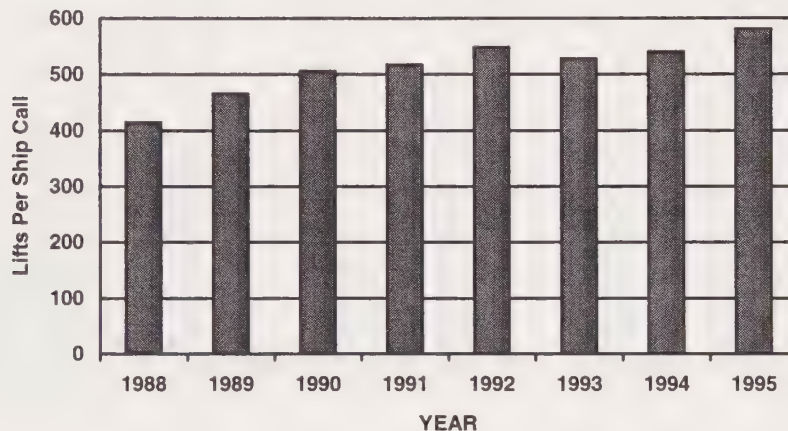


Figure A.1  
Lifts per Ship Call at the Port of Oakland

The growth in lifts per ship call from 1988 to 1995 represents an annual growth rate of 4.9 %. Assuming this trend continues until 2010, the average ship call in 2010 will consist of 1196 ship lifts.

Presently, most of the container ships that call at the Port of Oakland are in the 2500 to 4000 TEUs capacity range. In general, ship sizes will increase in the future. Ships that call at Oakland may or may not increase accordingly with the world fleet as depth limitations may prohibit large ships from calling at Oakland. The largest ships in the world have a capacity of approximately 6000 TEUs and a depth requirement of about 45 feet. The channel into the Port of Oakland is presently about 40 to 42 feet deep. The Port plans to dredge the channel in order to accept larger ships. This should allow the number of ship lifts per call to continue to grow as predicted.

The ship call size of 1196 lifts was used to compute the expected number of ship calls for each of the project alternatives shown in Table A.1.

| Option   | Lifts per Year | Ship Calls per Year | Ship Calls per Day |
|----------|----------------|---------------------|--------------------|
| 1995     | 848,536        | 1,460               | 4.0                |
| No Build | 1,258,925      | 1,053               | 2.9                |
| A        | 1,957,211      | 1,637               | 4.5                |
| B        | 1,586,582      | 1,327               | 3.6                |
| C        | 2,037,782      | 1,704               | 4.7                |
| D        | 2,005,554      | 1,678               | 4.6                |

Table A.1  
Ship Calls by Project Option

Assuming each ship is worked by two dockside cranes for two shifts per day and that the dockside crane productivity remains about 24 lifts per hour as it is today, each ship will be worked for an average of 1.6 days. Ships will spend longer than this in port due to docking and tie down time as well as other miscellaneous delays. Ships will be in Port for an average of two days per call, provided the Port continues to work ships seven days per week.



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**Appendix J.3**  
**Rail Terminal Traffic Analysis**



PART ONE OF RAIL TERMINAL TRAFFIC ANALYSIS

FLEET INDUSTRIAL SUPPLY CENTER OAKLAND  
DISPOSAL AND REUSE EIS/EIR

JOB NO. WC0337 PHASE 03

CONTENTS: PLATE 1 - SHOWING THE CAPACITY OF EACH RAIL TERMINAL  
EXISTING UNDER EACH ALTERNATIVE OPERATING  
THREE SEPARATE LEVELS OF EFFICIENCY. ALSO,  
THE PROJECTED EXTIMATED NUMBER OF GATE  
MOVES AND TRUCK TRUCK TRIPS THAT WOULD BE  
REQUIRED TO OPERATE EACH TERMINAL AT EACH  
OF THOSE LEVELS.

The assumptions made to generate the numbers are given at the bottom of the table. The assumptions are based on information obtained from existing rail terminals and model terminals that have been conceptually designed under previous studies.

November 5, 1996





| PLATE I - TRAFFIC ESTIMATES TO & FROM INTERMODAL FACILITIES (RR) |                         |       |     |              |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|--|-------------------------|-------|-----|--------------|---|------------------------------|-------|------------|---|---|-------|------------|----------------------------------|--|--------|------|-----------------------------------|-----|
| ALTERNATIVE  | ANNUAL LIFTS (CAPACITY) |       |     |              | TOTAL<br>ANNUAL<br>LIFTS ths/ds<br>(CAPACITY) | (l)<br>GATE MOVES (CAPACITY) |       |            | TOTAL<br>D'LY GATE<br>MOVES<br>(CAPACITY) | (m)<br>DAILY TRUCK TRIPS<br>Based on Gate Moves |       |            | TOTAL<br>DAILY<br>TRUCK<br>TRIPS | (n)<br>JOBS ON SITE<br>Based on Lifts (Capacity) |        |      | TOTAL<br>RAIL<br>TERMINAL<br>JOBS |     |
|  | (in thousands)          |       |     |              |   | (per day)                    |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  | OPERATION               | UP    | SP  | BNSF         |   | UP                           | SP    | BNSF       |   | UP  | SP    | BNSF       |                                  | UP   | SP     | BNSF |                                   |     |
| CURRENT  |                         | (a)   | (b) | (c) Richm'nd |   |                              |       | (Richmond) |   |   |       | (Richmond) |                                  |  |        |      |                                   |     |
|  | CURRENT                 | 102   | 158 | 24           | 284   | 431                          | 667   | 101        | 1,199                                     | 689   | 1,067 | 162        | 1,919                            | 55   | 72     | N/A  | 127                               |     |
|  | SUSTAINABLE             | (d)   | (e) | (c)          |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  |                         | 135   | 250 | 24           | 409   | 570                          | 1,056 | 101        | 1,727                                     | 912   | 1,689 | 162        | 2,763                            | 67   | 107    | N/A  | 174                               |     |
|  | CONSTRAINED             | (d)   | (e) | (c)          |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  |                         | 154   | 300 | 24           | 478   | 650                          | 1,267 | 101        | 2,018                                     | 1,040   | 2,027 | 162        | 3,229                            | 70   | 123    | N/A  | 193                               |     |
| NO BUILD<br>(ALT E)  |                         | (d)   | (e) | (c) Richm'nd |   |                              |       |            |   |   |       | (Richmond) |                                  |  |        |      |                                   |     |
|  | SUSTAINABLE             | 135   | 250 | 24           | 409   | 570                          | 1,056 | 101        | 1,727                                     | 912   | 1,689 | 162        | 2,763                            | 67   | 107    | N/A  | 174                               |     |
|  | CONSTRAINED             | (d)   | (e) | (c)          |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  |                         | 154   | 300 | 24           | 478   | 650                          | 1,267 | 101        | 2,018                                     | 1,040   | 2,027 | 162        | 3,229                            | 70   | 123    | N/A  | 193                               |     |
|  | GRIDLOCKED              | (d)   | (e) | (c)          |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  |                         | 194   | 359 | 24           | 577   | 819                          | 1,516 | 101        | 2,436                                     | 1,311   | 2,425 | 162        | 3,898                            | 82   | 130    | N/A  | 212                               |     |
| A  |                         | (j)   |     |              |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  | SUSTAINABLE             | 1,242 |     |              | 1,242   | 5,244                        |       |            | 5,244                                     | 8,390   |       |            | 8,390                            | 350  |        |      | 350                               |     |
|  | CONSTRAINED             | (j)   |     |              |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  |                         | 1,458 |     |              | 1,458   | 6,156                        |       |            | 6,156                                     | 9,850   |       |            | 9,850                            | 400  |        |      | 400                               |     |
|  | GRIDLOCKED              | (j)   |     |              |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  |                         | 1,782 |     |              | 1,782   | 7,524                        |       |            | 7,524                                     | 12,038  |       |            | 12,038                           | 427  |        |      | 427                               |     |
| B  |                         | (d)   | (f) | (i) Port     |   |                              |       |            |   |   |       | (Port)     |                                  |  |        |      |                                   |     |
|  | SUSTAINABLE             | 135   | 252 | 386          | 773   | 570                          | 1,064 | 1,630      | 3,264                                     | 912   | 1,702 | 2,608      | 5,222                            | 67   | 150    | 167  | 384                               |     |
|  | CONSTRAINED             | (d)   | (f) | (i)          |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  |                         | 154   | 276 | 429          | 859   | 650                          | 1,165 | 1,811      | 3,627                                     | 1,040   | 1,865 | 2,898      | 5,803                            | 70   | 167    | 178  | 415                               |     |
|  | GRIDLOCKED              | (d)   | (f) | (i)          |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  |                         | 194   | 361 | 554          | 1,109   | 819                          | 1,524 | 2,239      | 4,682                                     | 1,311   | 2,439 | 3,743      | 7,492                            | 82   | 183    | 204  | 469                               |     |
| C  |                         | (g)   |     | (h) Port     |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  | SUSTAINABLE             | 609   |     | 600          | 1,209   | 2,571                        |       |            | 2,533                                     | 5,105   | 4,114 |            |                                  | 4,053  | 8,167  | 210  | 208                               | 418 |
|  | CONSTRAINED             | (g)   |     | (h)          |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  |                         | 660   |     | 650          | 1,310   | 2,787                        |       |            | 2,744                                     | 5,531   | 4,459 |            |                                  | 4,391  | 8,850  | 222  | 220                               | 442 |
|  | GRIDLOCKED              | (g)   |     | (h)          |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  |                         | 874   |     | 860          | 1,734   | 3,690                        |       |            | 3,631                                     | 7,321   | 5,904 |            |                                  | 5,810  | 11,714 | 256  | 254                               | 510 |
| D  |                         | (k)   |     |              |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  | SUSTAINABLE             | 1,156 |     |              | 1,156   | 4,881                        |       |            | 4,881                                     | 7,809   |       |            | 7,809                            | 343  |        |      | 343                               |     |
|  | CONSTRAINED             | (k)   |     |              |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  |                         | 1,257 |     |              | 1,257   | 5,730                        |       |            | 5,730                                     | 9,167   |       |            | 9,167                            | 375  |        |      | 375                               |     |
|  | GRIDLOCKED              | (k)   |     |              |   |                              |       |            |   |   |       |            |                                  |  |        |      |                                   |     |
|  |                         | 1,658 |     |              | 1,658   | 7,000                        |       |            | 7,000                                     | 11,201  |       |            | 11,201                           | 418  |        |      | 418                               |     |

- (a) Very recent figure obtained from UP.  
 (b) Very recent figure obtained from SP.  
 (c) 15% of total 160,000 lifts recently obtained from BN/SF (15% attributable to Port of Oakland).  
 (d) Joint Intermodal Terminal (JIT) Operational Analysis Report, page 39.  
 (e) JIT Operational Analysis Report, page 42 (adjusted for lift demand Alt E).  
 (f) Preliminary Draft, Proposed Expanded Southern Pacific Intermodal Terminal - Version 3.  
 (g) Preliminary Draft, Proposed Expanded Southern Pacific Intermodal Terminal - Version 2.  
 (h) JIT Operating Plan Report, page 57 (based on track under crane).  
 (i) JIT Operating Plan Report, page 57 (reducing track under crane by tracks #6 and #7, lost to support tracks).  
 Note: It is assumed that under Alternate B the rail terminal facilities would expand capacity in accordance with the demand for lifts, and there would be close to a 50/50 split between UP (merged) and BNSF  
 (j) JIT Operating Plan Report, page 2 of Appendix A.

- (k) JIT Operating Plan Report, page 2 of Appendix A (proportioned by track under crane).  
 (l) Average daily gate moves calculated by dividing annual lifts by 360 days and multiplying by 1.52 gate moves/lift.  
 (m) The number of daily truck trips is 1.6 times the Gate Moves, a factor thought to be conservatively high.  
 Note: At rail terminals, moves through the gates involving empty chassis are counted as gate moves.  
 (n) The number of employees are taken from known and modeled facilities, the jobs on site under gridlocked conditions are 1.43 times the number required for sustainable conditions minus 15% assumed constant (supervisors etc).  
 Notes:  
 A. Under "Annual Lifts" three levels of operation are referred to by the table: 1. Sustainable is near comfortable capacity wherein lift costs are minimized. 2. Constrained is beyond the comfortable capacity of the infrastructure and a premium is paid in cost per lift. 3. Gridlocked is operating at maximum capacity with maximum effort.  
 B. Gate Moves = Gate Transactions. They do not include truck tractors without chassis or trailers (Bobtails).  
 C. The table on page 2 shows comparison between lift capacities and demand (projected number of Int'l., domestic, & trailers.)



## PART TWO OF RAIL TERMINAL TRAFFIC ANALYSIS

### FLEET INDUSTRIAL SUPPLY CENTER OAKLAND DISPOSAL AND REUSE EIS/EIR

JOB NO. WC0337 PHASE 03

|                             |   |
|-----------------------------|---|
| CONTENTS: Pages 1 - 3 ..... | Show the estimated type and number of trains that will be travelling over those segments of railroad shown on the diagramatic map on PLATE 11, page 4 under each alternative.   |
| Page 4 - PLATE 11 .....     | Shows the total number of trains in each segment for each alternative and a diagramatic map of the railroad segments.   |
| Page 5 .....                | Describes the rationale used in estimating the number of intermodal trains that will be generated by the existing rail terminals under each alternative at the operating level predicted by JWD and tabulated by Dowling and Assoc. |
| Pages 6 - 17 .....          | Show the gate down time at the crossings in each rail segment calculated by the formula shown and based on the estimated trains shown by pages 1 - 3.   |

The assumptions made to estimate the numbers of trains are based on information given by the various railroads, information taken from the recent Union Pacific/ Southern Pacific merger and previous studies.

November 5, 1996





**ALTERNATIVE: CURRENT (POST-MERGER) (BELOW SUSTAINABLE)**

| Segment  | TRAIN TYPE                       |             |                 |              |            |             |           |                                |             |                 |                               |            |             |           |    | TOTAL<br>DAILY<br>TRAINS |
|--|----------------------------------|-------------|-----------------|--------------|------------|-------------|-----------|--------------------------------|-------------|-----------------|-------------------------------|------------|-------------|-----------|----|--------------------------|
|  | EASTBOUND (AWAY FROM 7TH STREET) |             |                 |              |            |             |           | WESTBOUND (TOWARDS 7TH STREET) |             |                 |                               |            |             |           |    |                          |
|  | 1200<br>PASS                     | 600<br>PASS | 6000<br>BNSF-IM | 6000<br>TF-M | 6000<br>IM | 1200<br>LOC | 300<br>SW | 1200<br>PASS                   | 600<br>PASS | 6000<br>BNSF-IM | 6000<br>TF-M                  | 6000<br>IM | 1200<br>LOC | 300<br>SW |    |                          |
| A  | 2                                | 8           |                 | 4            | 2          |             |           | 2                              | 8           |                 | 3                             | 3          |             |           | 32 |                          |
| B  | 2                                | 8           |                 | 4            | 2          | **2         | 2         | 2                              | 8           |                 | 3                             | 3          | **2         | 2         | 40 |                          |
| C  | 2                                | 8           |                 |              |            |             | 2         | 2                              | 8           |                 |                               |            |             | 2         | 24 |                          |
| D  | *5                               | *13         |                 |              |            |             | 2         | *5                             | *13         |                 |                               |            |             | 2         | 40 |                          |
| E  | *5                               | *13         |                 | 2            |            | 2           |           | *5                             | *13         |                 | 2                             |            | 2           |           | 44 |                          |
| F  | 1                                | 3           |                 | 2            |            | 2           |           | 1                              | 3           |                 | 2                             |            | 2           |           | 16 |                          |
| * INCLUDES DEADHEAD PASSENGER TRAIN MOVEMENTS BETWEEN JLS AND PEMF |                                  |             |                 |              |            |             |           |                                |             |                 | TF-M - THRU FREIGHT, MANIFEST |            |             |           |    |                          |
| ** BNSF TRAINS   |                                  |             |                 |              |            |             |           |                                |             |                 | IM - INTERMODAL TRAIN         |            |             |           |    |                          |
| PASS - PASSENGER TRAIN   |                                  |             |                 |              |            |             |           |                                |             |                 | LOC - LOCAL FREIGHT TRAIN     |            |             |           |    |                          |
| BNSF-IM - BURLINGTON NORTHERN SANTA FE INTERMODAL TRAIN            |                                  |             |                 |              |            |             |           |                                |             |                 | SW - SWITCHER TRAIN           |            |             |           |    |                          |

**ALTERNATIVE:NO BUILD (GRIDLOCKED)**

| Segment | TRAIN TYPE                       |             |                 |              |            |             |           |                                |             |                 |              |            |             |           |    | TOTAL<br>DAILY<br>TRAINS |
|---------|----------------------------------|-------------|-----------------|--------------|------------|-------------|-----------|--------------------------------|-------------|-----------------|--------------|------------|-------------|-----------|----|--------------------------|
|         | EASTBOUND (AWAY FROM 7TH STREET) |             |                 |              |            |             |           | WESTBOUND (TOWARDS 7YH STREET) |             |                 |              |            |             |           |    |                          |
|         | 1200<br>PASS                     | 600<br>PASS | 6000<br>BNSF-IM | 6000<br>TF-M | 6000<br>IM | 1200<br>LOC | 300<br>SW | 1200<br>PASS                   | 600<br>PASS | 6000<br>BNSF-IM | 6000<br>TF-M | 6000<br>IM | 1200<br>LOC | 300<br>SW |    |                          |
| A       | 2                                | 10          |                 | 4            | ***4       |             |           | 2                              | 10          |                 | 5            | ***5       |             |           | 42 |                          |
| B       | 2                                | 10          |                 | 4            | 4          | **2         | 1         | 2                              | 10          |                 | 4            | 5          | **2         | 1         | 47 |                          |
| C       | 2                                | 10          |                 |              |            |             | 1         | 2                              | 10          |                 |              |            |             | 1         | 26 |                          |
| D       | *5                               | *15         |                 |              |            |             | 1         | *5                             | *15         |                 |              |            |             | 1         | 42 |                          |
| E       | *5                               | *15         |                 | 2            |            | 2           |           | *5                             | *15         |                 | 2            |            | 2           |           | 48 |                          |
| F       | 1                                | 5           |                 | 2            |            | 2           |           | 1                              | 5           |                 | 2            |            | 2           |           | 20 |                          |

\* INCLUDES DEADHEAD PASSENGER TRAIN MOVEMENTS BETWEEN JLS AND PEMF

\*\* BNSF TRAINS (NO CHANGE FROM CURRENT POST-MERGER CONDITIONS)

\*\*\* CORRESPONDS TO THE 9 INTERMODAL TRAINS/DAY PER TRAIN ANALYSIS AND ASSUMPTIONS

### ALTERNATIVE: A (SUSTAINABLE)

| Segment | TRAIN TYPE                       |             |                 |              |            |             |           |                                |             |                 |              |            |             |           |    | TOTAL<br>DAILY<br>TRAINS |
|---------|----------------------------------|-------------|-----------------|--------------|------------|-------------|-----------|--------------------------------|-------------|-----------------|--------------|------------|-------------|-----------|----|--------------------------|
|         | EASTBOUND (AWAY FROM 7TH STREET) |             |                 |              |            |             |           | WESTBOUND (TOWARDS 7TH STREET) |             |                 |              |            |             |           |    |                          |
|         | 1200<br>PASS                     | 600<br>PASS | 6000<br>BNSF-IM | 6000<br>TF-M | 6000<br>IM | 1200<br>LOC | 300<br>SW | 1200<br>PASS                   | 600<br>PASS | 6000<br>BNSF-IM | 6000<br>TF-M | 6000<br>IM | 1200<br>LOC | 300<br>SW |    |                          |
| A       | 2                                | 10          | ***4            | 4            | 5          |             |           | 2                              | 10          | ***4            | 4            | 5          |             |           | 50 |                          |
| B       | 2                                | 10          | ***4            | 4            | 5          | **1         | 1         | 2                              | 10          | ***4            | 4            | 5          | **1         | 1         | 54 |                          |
| C       | 2                                | 10          |                 |              |            |             | 1         | 2                              | 10          |                 |              |            |             | 1         | 26 |                          |
| D       | *5                               | *15         |                 |              |            |             | 1         | *5                             | *15         |                 |              |            |             | 2         | 43 |                          |
| E       | *5                               | *15         |                 | 2            |            | 2           |           | *5                             | *15         |                 | 2            |            | 2           |           | 48 |                          |
| F       | 1                                | 5           |                 | 2            |            | 2           |           | 1                              | 5           |                 | 2            |            | 2           |           | 20 |                          |

\* INCLUDES DEADHEAD PASSENGER TRAIN MOVEMENTS BETWEEN JLS AND PEMF

\*\* BNSF TRAINS

\*\*\* ASSUMES BNSF HAS 40% TO 50% OF THE INTERMODAL TRAIN TRAFFIC

PASS - PASSENGER TRAIN

BNSF-IM - BURLINGTON NORTHERN SANTA FE INTERMODAL TRAIN

TF-M - THRU FREIGHT, MANIFEST

IM - INTERMODAL TRAIN

LOC - LOCAL FREIGHT TRAIN

SW - SWITCHER TRAIN

### ALTERNATIVE: B (SUSTAINABLE)

| Segment | TRAIN TYPE                       |             |                 |              |            |             |           |                                |             |                 |              |            |             |           |    | TOTAL<br>DAILY<br>TRAINS |
|---------|----------------------------------|-------------|-----------------|--------------|------------|-------------|-----------|--------------------------------|-------------|-----------------|--------------|------------|-------------|-----------|----|--------------------------|
|         | EASTBOUND (AWAY FROM 7TH STREET) |             |                 |              |            |             |           | WESTBOUND (TOWARDS 7TH STREET) |             |                 |              |            |             |           |    |                          |
|         | 1200<br>PASS                     | 600<br>PASS | 6000<br>BNSF-IM | 6000<br>TF-M | 6000<br>IM | 1200<br>LOC | 300<br>SW | 1200<br>PASS                   | 600<br>PASS | 6000<br>BNSF-IM | 6000<br>TF-M | 6000<br>IM | 1200<br>LOC | 300<br>SW |    |                          |
| A       | 2                                | 10          | 3               | 4            | 3          |             |           | 2                              | 10          | 3               | 4            | 3          |             |           | 44 |                          |
| B       | 2                                | 10          | 3               | 4            | 3          | **1         | 1         | 2                              | 10          | 3               | 4            | 3          | **1         | 1         | 48 |                          |
| C       | 2                                | 10          |                 |              |            |             | 1         | 2                              | 10          |                 |              |            |             | 1         | 26 |                          |
| D       | *5                               | *15         |                 |              |            |             | 1         | *5                             | *15         |                 |              |            |             | 1         | 42 |                          |
| E       | *5                               | *15         |                 | 2            |            | 2           |           | *5                             | *15         |                 | 2            |            | 2           |           | 48 |                          |
| F       | 1                                | 5           |                 | 2            |            | 2           |           | 1                              | 5           |                 | 2            |            | 2           |           | 20 |                          |

\* INCLUDES DEADHEAD PASSENGER TRAIN MOVEMENTS BETWEEN JLS AND PEMF

\*\* BNSF TRAINS

### ALTERNATIVE: C (CONSTRAINED)

| Segment | TRAIN TYPE                       |             |                 |              |            |             |           |                                |             |                 |              |            |             |           | TOTAL<br>DAILY<br>TRAINS |
|---------|----------------------------------|-------------|-----------------|--------------|------------|-------------|-----------|--------------------------------|-------------|-----------------|--------------|------------|-------------|-----------|--------------------------|
|         | EASTBOUND (AWAY FROM 7TH STREET) |             |                 |              |            |             |           | WESTBOUND (TOWARDS 7TH STREET) |             |                 |              |            |             |           |                          |
|         | 1200<br>PASS                     | 600<br>PASS | 6000<br>BNSF-IM | 6000<br>TF-M | 6000<br>IM | 1200<br>LOC | 300<br>SW | 1200<br>PASS                   | 600<br>PASS | 6000<br>BNSF-IM | 6000<br>TF-M | 6000<br>IM | 1200<br>LOC | 300<br>SW |                          |
| A       | 2                                | 10          | 5               | 4            | 4          |             |           | 2                              | 10          | 5               | 4            | 5          |             |           | 51                       |
| B       | 2                                | 10          | 5               | 4            | 4          | **1         | 1         | 2                              | 10          | 5               | 4            | 5          | **1         | 1         | 55                       |
| C       | 2                                | 10          |                 |              |            |             | 1         | 2                              | 10          |                 |              |            |             | 1         | 26                       |
| D       | *5                               | *15         |                 |              |            |             | 1         | *5                             | *15         |                 |              |            |             | 1         | 42                       |
| E       | *5                               | *15         |                 | 2            |            | 2           |           | *5                             | *15         |                 | 2            |            | 2           |           | 48                       |
| F       | 1                                | 5           |                 | 2            |            | 2           |           | 1                              | 5           |                 | 2            |            | 2           |           | 20                       |

\* INCLUDES DEADHEAD PASSENGER TRAIN MOVEMENTS BETWEEN JLS AND PEMF  
\*\* BNSF TRAINS

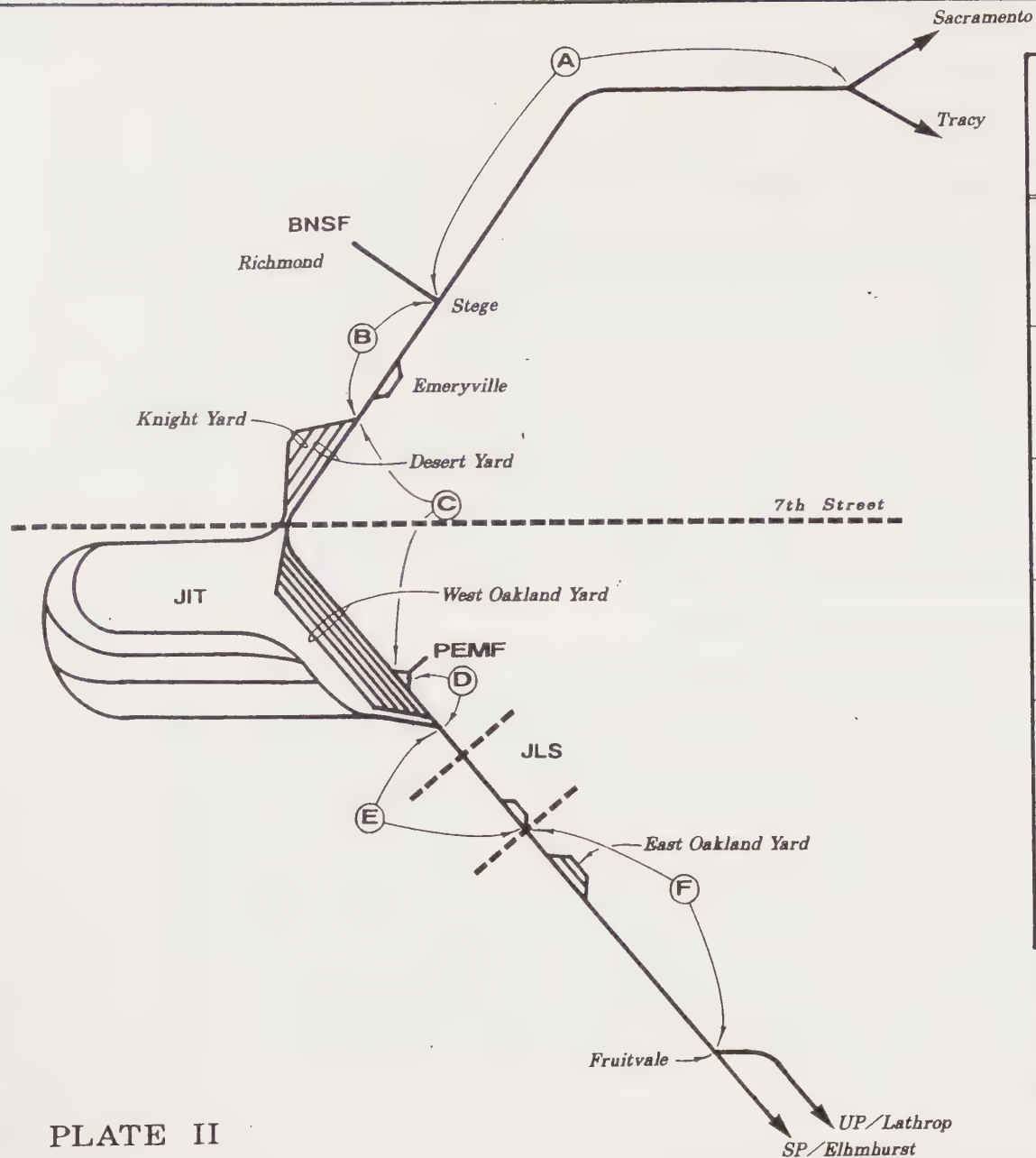
PASS - PASSENGER TRAIN  
BNSF-IM - BURLINGTON NORTHERN SANTA FE INTERMODAL TRAIN

TF-M - THRU FREIGHT, MANIFEST  
IM - INTERMODAL TRAIN  
LOC - LOCAL FREIGHT TRAIN  
SW - SWITCHER TRAIN

### ALTERNATIVE: D (CONSTRAINED)

| Segment | TRAIN TYPE                       |             |                 |              |            |             |           |                                |             |                 |              |            |             |           | TOTAL<br>DAILY<br>TRAINS |
|---------|----------------------------------|-------------|-----------------|--------------|------------|-------------|-----------|--------------------------------|-------------|-----------------|--------------|------------|-------------|-----------|--------------------------|
|         | EASTBOUND (AWAY FROM 7TH STREET) |             |                 |              |            |             |           | WESTBOUND (TOWARDS 7TH STREET) |             |                 |              |            |             |           |                          |
|         | 1200<br>PASS                     | 600<br>PASS | 6000<br>BNSF-IM | 6000<br>TF-M | 6000<br>IM | 1200<br>LOC | 300<br>SW | 1200<br>PASS                   | 600<br>PASS | 6000<br>BNSF-IM | 6000<br>TF-M | 6000<br>IM | 1200<br>LOC | 300<br>SW |                          |
| A       | 2                                | 10          | ***4            | 4            | 5          |             |           | 2                              | 10          | ***4            | 4            | 6          |             |           | 51                       |
| B       | 2                                | 10          | ***4            | 4            | 5          | **1         | 1         | 2                              | 10          | ***4            | 4            | 6          | **1         | 1         | 55                       |
| C       | 2                                | 10          |                 |              |            |             | 1         | 2                              | 10          |                 |              |            |             | 1         | 26                       |
| D       | *5                               | *15         |                 |              |            |             | 1         | *5                             | *15         |                 |              |            |             | 1         | 42                       |
| E       | *5                               | *15         |                 | 2            |            | 2           |           | *5                             | *15         |                 | 2            |            | 2           |           | 48                       |
| F       | 1                                | 5           |                 | 2            |            | 2           |           | 1                              | 5           |                 | 2            |            | 2           |           | 20                       |





| ALTERNATIVE      | TRAIN TRAFFIC IN SEGMENT |    |    |    |    |    |
|------------------|--------------------------|----|----|----|----|----|
|                  | A                        | B  | C  | D  | E  | F  |
| CURRENT          | 32                       | 40 | 24 | 40 | 44 | 16 |
| NO BUILD (ALT E) | 42                       | 47 | 26 | 42 | 48 | 20 |
| A                | 50                       | 54 | 26 | 43 | 48 | 20 |
| B                | 44                       | 48 | 26 | 42 | 48 | 20 |
| C                | 51                       | 55 | 26 | 42 | 48 | 20 |
| D                | 51                       | 55 | 26 | 42 | 48 | 20 |

#### LEGEND

TRAIN TRAFFIC - AVERAGE NO. OF TRAINS IN EACH RAIL SEGMENT DAILY  
 BNSF.....BURLINGTON NORTHERN SANTA FE INTERMODAL FACILITY  
 JIT.....JOINT INTERMODAL TERMINAL -PORT OF OAKLAND  
 PEMF.....AMTRAK - PASSENGER EQUIPMENT MAINTENANCE FACILITY  
 JLS.....JACK LONDON SQUARE  
 Note: Stege is the junction of the Richmond Branch and the Main Line to Sacramento.

## TRAIN ANALYSIS AND ASSUMPTIONS

A typical 6000 ft. train is assumed to carry an average of 8.75 trailers and 166.25 containers (175 vans). The trailers are most commonly carried on 89 ft. flatcars and a space utilization of approximately 80% is assumed. The containers are most commonly carried on doublestack platforms 61 ft. in length. A slot utilization factor of 1.83 containers per platform is used here because the Union Pacific used this factor for projecting numbers of intermodal trains in their recent merger application.

A rail terminal with a lift capacity of 100,000 annual lifts would require the following average number of trains per day.

100,000 divided by                      360 days                      divided by                      175                      equals                      1.587302 trains/day

Using this model, the relative number of trains required for each of the rail terminals at the projected level of operation under each alternative follow:

| Alternative           | Facility  | Lifts in<br>Thousands | Function | Multiplier | Function | Ave. Daily Trains |
|-----------------------|-----------|-----------------------|----------|------------|----------|-------------------|
| Current<br>(Existing) | UP        | 1.02                  | times    | 1.59       | equals   | 1.62 trains/day   |
|                       | SP        | 1.58                  | times    | 1.59       | equals   | 2.51 trains/day   |
|                       | Richmond  | 0.24                  | times    | 1.59       | equals   | 0.38 trains/day   |
|                       | Merged UP |                       |          |            |          | 4.13 trains/day   |
|                       | Total     |                       |          |            |          | 4.51 trains/day   |
| No Build<br>Gridlock  | UP        | 1.94                  | times    | 1.59       | equals   | 3.08 trains/day   |
|                       | SP        | 3.59                  | times    | 1.59       | equals   | 5.70 trains/day   |
|                       | Richmond  | 0.24                  | times    | 1.59       | equals   | 0.38 trains/day   |
|                       | Merged UP |                       |          |            |          | 8.78 trains/day   |
|                       | Total     |                       |          |            |          | 9.16 trains/day   |
| Alt A<br>Sust'n'ble   | JIT       | 11.40                 | times    | 1.59       | equals   | 18.09 trains/day  |
| Alt B<br>Sust'n'ble   | UP        | 1.05                  | times    | 1.59       | equals   | 1.67 trains/day   |
|                       | SP        | 3.12                  | times    | 1.59       | equals   | 4.96 trains/day   |
|                       | BNSFport  | 3.51                  |          | 1.59       | equals   | 5.57 trains/day   |
|                       | Merged UP |                       |          |            |          | 6.63 trains/day   |
|                       | Total     |                       |          |            |          | 12.21 trains/day  |
| Alt C<br>Constr'nd    | Merged UP | 6.05                  | times    | 1.59       | equals   | 9.61 trains/day   |
|                       | BNSFport  | 6.14                  | times    | 1.59       | equals   | 9.75 trains/day   |
|                       | Total     |                       |          |            |          | 19.36 trains/day  |
| Alt D<br>Constr'nd    | JIT       | 11.89                 | times    | 1.59       | equals   | 18.87 trains/day  |

See "Traffic Estimates To & From Intermodal Facilities (RR)" for levels of operation, pg.1, Part 1.

**TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING**

| Constant  | Length | Constant | Speed MPH | Time SEC | Time MIN |
|---|--------|----------|-----------|----------|----------|
| ie. $T=30+(1200/(1.47*45))=48$ seconds or 0.8 minutes |        |          |           |          |          |
| 30  | 6000   | 1.47     | 60        | 98.03    | 1.63     |
| 30  | 1200   | 1.47     | 60        | 43.61    | 0.73     |
| 30  | 600    | 1.47     | 60        | 36.80    | 0.61     |
| 30  | 300    | 1.47     | 60        | 33.40    | 0.56     |
| 30  | 6000   | 1.47     | 45        | 120.70   | 2.01     |
| 30  | 1200   | 1.47     | 45        | 48.14    | 0.80     |
| 30  | 600    | 1.47     | 45        | 39.07    | 0.65     |
| 30  | 300    | 1.47     | 45        | 34.54    | 0.58     |
| 30  | 6000   | 1.47     | 40        | 132.04   | 2.20     |
| 30  | 1200   | 1.47     | 40        | 50.41    | 0.84     |
| 30  | 600    | 1.47     | 40        | 40.20    | 0.67     |
| 30  | 300    | 1.47     | 40        | 35.10    | 0.59     |
| 30  | 6000   | 1.47     | 20        | 234.08   | 3.90     |
| 30  | 1200   | 1.47     | 20        | 70.82    | 1.18     |
| 30  | 600    | 1.47     | 20        | 50.41    | 0.84     |
| 30  | 300    | 1.47     | 20        | 40.20    | 0.67     |
| 30  | 6000   | 1.47     | 15        | 302.11   | 5.04     |
| 30  | 1200   | 1.47     | 15        | 84.42    | 1.41     |
| 30  | 600    | 1.47     | 15        | 57.21    | 0.95     |
| 30  | 300    | 1.47     | 15        | 43.61    | 0.73     |

**GATE DOWN TIME AT SUBJECT CROSSINGS**

Note: The first number is the limit speed for passenger trains- the second for freight trains.

| Speed            | 60-60         |      | 60-60                |      | 15-15      |       | 60-40             |      |
|------------------|---------------|------|----------------------|------|------------|-------|-------------------|------|
| Segment          | A             |      | B                    |      | E          |       | F                 |      |
| Alt. & Dir.      | 2-1200        | 1.45 | 2-1200               | 1.45 | 5-1200     | 7.04  | 1-1200            | 0.73 |
| Current Eastb'nd | 8-600         | 4.91 | 8-600                | 4.91 | 13-600     | 12.40 | 3-600             | 1.67 |
|                  | 4-6000        | 6.54 | 4-6000               | 6.54 | 2-6000     | 10.07 | 2-6000            | 4.40 |
|                  | 2-6000        | 3.27 | 2-6000               | 3.27 | 2-1200     | 2.81  | 2-1200            | 1.68 |
|                  |               |      | 2-1200               | 1.45 |            |       |                   |      |
|                  |               |      | 2-300                | 1.11 |            |       |                   |      |
| Sub-Total        | 16.16         |      | 18.73                |      | 32.32      |       | 8.48              |      |
|                  | Cutting Blvd. |      | Gilman-Bancroft      |      | Market-Oak |       | 29th-37th Avenues |      |
| Speed            |               |      | 45-45                |      |            |       | 40-20             |      |
| Segment          |               |      | B                    |      |            |       | F                 |      |
|                  |               |      | 2-1200               | 1.60 |            |       | 1-1200            | 0.84 |
|                  |               |      | 8-600                | 5.21 |            |       | 3-600             | 2.01 |
|                  |               |      | 4-6000               | 8.05 |            |       | 2-6000            | 7.80 |
|                  |               |      | 2-6000               | 4.02 |            |       | 2-1200            | 2.36 |
|                  |               |      | 2-1200               | 1.60 |            |       |                   |      |
|                  |               |      | 2-300                | 1.15 |            |       |                   |      |
| Sub-Total        |               |      | 21.64                |      |            |       | 13.01             |      |
|                  |               |      | 67th,66th,65th St.'s |      |            |       | 5th Avenue        |      |

# TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

| Constant  | Length | Constant | Speed MPH | Time SEC | Time MIN |
|---|--------|----------|-----------|----------|----------|
| ie. $T=30+(1200/(1.47*45))=48$ seconds or 0.8 minutes |        |          |           |          |          |
| 30  | 6000   | 1.47     | 60        | 98.03    | 1.63     |
| 30  | 1200   | 1.47     | 60        | 43.61    | 0.73     |
| 30  | 600    | 1.47     | 60        | 36.80    | 0.61     |
| 30  | 300    | 1.47     | 60        | 33.40    | 0.56     |
| 30  | 6000   | 1.47     | 45        | 120.70   | 2.01     |
| 30  | 1200   | 1.47     | 45        | 48.14    | 0.80     |
| 30  | 600    | 1.47     | 45        | 39.07    | 0.65     |
| 30  | 300    | 1.47     | 45        | 34.54    | 0.58     |
| 30  | 6000   | 1.47     | 40        | 132.04   | 2.20     |
| 30  | 1200   | 1.47     | 40        | 50.41    | 0.84     |
| 30  | 600    | 1.47     | 40        | 40.20    | 0.67     |
| 30  | 300    | 1.47     | 40        | 35.10    | 0.59     |
| 30  | 6000   | 1.47     | 20        | 234.08   | 3.90     |
| 30  | 1200   | 1.47     | 20        | 70.82    | 1.18     |
| 30  | 600    | 1.47     | 20        | 50.41    | 0.84     |
| 30  | 300    | 1.47     | 20        | 40.20    | 0.67     |
| 30  | 6000   | 1.47     | 15        | 302.11   | 5.04     |
| 30  | 1200   | 1.47     | 15        | 84.42    | 1.41     |
| 30  | 600    | 1.47     | 15        | 57.21    | 0.95     |
| 30  | 300    | 1.47     | 15        | 43.61    | 0.73     |

## GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

| Speed                             | 60-60                |      | 60-60                |      | 15-15      |       | 60-40             |      |
|-----------------------------------|----------------------|------|----------------------|------|------------|-------|-------------------|------|
| Segment                           | A                    |      | B                    |      | E          |       | F                 |      |
| Alt. & Dir.                       | 2-1200               | 1.45 | 2-1200               | 1.45 | 5-1200     | 7.04  | 1-1200            | 0.73 |
| <b>Current Westb'nd</b>           | 8-600                | 4.91 | 8-600                | 4.91 | 13-600     | 12.40 | 3-600             | 1.67 |
|                                   | 3-6000               | 4.90 | 3-6000               | 4.90 | 2-6000     | 10.07 | 2-6000            | 4.40 |
|                                   | 3-6000               | 4.90 | 3-6000               | 4.90 | 2-1200     | 2.81  | 2-1200            | 1.68 |
|                                   |                      |      | 2-1200               | 1.45 |            |       |                   |      |
|                                   |                      |      | 2-300                | 1.11 |            |       |                   |      |
| Sub-Total                         | 16.16                |      | 18.73                |      | 32.32      |       | 8.48              |      |
|                                   | Cutting Blvd.        |      | Gilman-Bancroft      |      | Market-Oak |       | 29th-37th Avenues |      |
| Speed                             | 45-45                |      |                      |      | 40-20      |       |                   |      |
| Segment                           | B                    |      |                      |      | F          |       |                   |      |
|                                   | 2-1200               | 1.60 |                      |      | 1-1200     | 0.84  |                   |      |
|                                   | 8-600                | 5.21 |                      |      | 3-600      | 2.01  |                   |      |
|                                   | 3-6000               | 6.04 |                      |      | 2-6000     | 7.80  |                   |      |
|                                   | 3-6000               | 6.04 |                      |      | 2-1200     | 2.36  |                   |      |
|                                   | 2-1200               | 1.60 |                      |      |            |       |                   |      |
|                                   | 2-300                | 1.15 |                      |      |            |       |                   |      |
| Sub-Total                         | 67th,66th,65th St's. |      | 21.64                |      | 5th Avenue |       | 13.01             |      |
| <b>Totals East &amp; West</b>     | Cutting Blvd.        |      | Gilman-Bancroft      |      | Market-Oak |       | 29th-37th Avenues |      |
|                                   | 32.33                |      | 37.46                |      | 64.63      |       | 16.96             |      |
| <b>From all Trains in Minutes</b> |                      |      | 67th,66th,65th St's. |      |            |       | 5th Avenue        |      |
|                                   |                      |      | 43.28                |      |            |       | 26.03             |      |



**TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING**

| Constant  | Length | Constant | Speed MPH | Time SEC | Time MIN |
|---|--------|----------|-----------|----------|----------|
| ie. $T=30+(1200/(1.47*45))=48$ seconds or 0.8 minutes |        |          |           |          |          |
| 30  | 6000   | 1.47     | 60        | 98.03    | 1.63     |
| 30  | 1200   | 1.47     | 60        | 43.61    | 0.73     |
| 30  | 600    | 1.47     | 60        | 36.80    | 0.61     |
| 30  | 300    | 1.47     | 60        | 33.40    | 0.56     |
| 30  | 6000   | 1.47     | 45        | 120.70   | 2.01     |
| 30  | 1200   | 1.47     | 45        | 48.14    | 0.80     |
| 30  | 600    | 1.47     | 45        | 39.07    | 0.65     |
| 30  | 300    | 1.47     | 45        | 34.54    | 0.58     |
| 30  | 6000   | 1.47     | 40        | 132.04   | 2.20     |
| 30  | 1200   | 1.47     | 40        | 50.41    | 0.84     |
| 30  | 600    | 1.47     | 40        | 40.20    | 0.67     |
| 30  | 300    | 1.47     | 40        | 35.10    | 0.59     |
| 30  | 6000   | 1.47     | 20        | 234.08   | 3.90     |
| 30  | 1200   | 1.47     | 20        | 70.82    | 1.18     |
| 30  | 600    | 1.47     | 20        | 50.41    | 0.84     |
| 30  | 300    | 1.47     | 20        | 40.20    | 0.67     |
| 30  | 6000   | 1.47     | 15        | 302.11   | 5.04     |
| 30  | 1200   | 1.47     | 15        | 84.42    | 1.41     |
| 30  | 600    | 1.47     | 15        | 57.21    | 0.95     |
| 30  | 300    | 1.47     | 15        | 43.61    | 0.73     |

**GATE DOWN TIME AT SUBJECT CROSSINGS**

Note: The first number is the limit speed for passenger trains- the second for freight trains.

| Speed                        | 60-60                |      | 60-60           |      | 15-15      |       | 60-40             |      |
|------------------------------|----------------------|------|-----------------|------|------------|-------|-------------------|------|
| Segment                      | A                    |      | B               |      | E          |       | F                 |      |
| Alt. & Dir.                  | 2-1200               | 1.45 | 2-1200          | 1.45 | 5-1200     | 7.04  | 1-1200            |      |
| <b>No Build<br/>Eastb'nd</b> | 10-600               | 6.13 | 10-600          | 6.13 | 15-600     | 14.30 | 5-600             | 2.78 |
|                              | 4-6000               | 6.54 | 4-6000          | 6.54 | 2-6000     | 10.07 | 2-6000            | 4.40 |
|                              | 4-6000               | 6.54 | 4-6000          | 6.54 | 2-1200     | 2.81  | 2-1200            | 1.68 |
|                              |                      |      | 2-1200          | 1.45 |            |       |                   |      |
|                              |                      |      | 1-300           | 0.56 |            |       |                   |      |
| Sub-Total                    | 20.66                |      | 22.67           |      | 34.22      |       | 8.87              |      |
|                              | Cutting Blvd.        |      | Gilman-Bancroft |      | Market-Oak |       | 29th-37th Avenues |      |
| Speed                        | 45-45                |      |                 |      |            |       | 40-20             |      |
| Segment                      | B                    |      |                 |      |            |       | F                 |      |
|                              | 2-1200               | 1.60 |                 |      |            |       | 1-1200            | 0.84 |
|                              | 10-600               | 6.51 |                 |      |            |       | 5-600             | 3.35 |
|                              | 4-6000               | 8.05 |                 |      |            |       | 2-6000            | 0.73 |
|                              | 4-6000               | 8.05 |                 |      |            |       | 2-1200            | 2.36 |
|                              | 2-1200               | 1.60 |                 |      |            |       |                   |      |
|                              | 1-300                | 0.58 |                 |      |            |       |                   |      |
| Sub-Total                    | 26.39                |      |                 |      |            |       | 7.28              |      |
|                              | 67th,66th,65th St.'s |      |                 |      |            |       | 5th Avenue        |      |

**TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING**

| Constant  | Length | Constant | Speed MPH | Time SEC | Time MIN |
|---|--------|----------|-----------|----------|----------|
| ie. $T=30+(1200/(1.47*45))=48$ seconds or 0.8 minutes |        |          |           |          |          |
| 30  | 6000   | 1.47     | 60        | 98.03    | 1.63     |
| 30  | 1200   | 1.47     | 60        | 43.61    | 0.73     |
| 30  | 600    | 1.47     | 60        | 36.80    | 0.61     |
| 30  | 300    | 1.47     | 60        | 33.40    | 0.56     |
| 30  | 6000   | 1.47     | 45        | 120.70   | 2.01     |
| 30  | 1200   | 1.47     | 45        | 48.14    | 0.80     |
| 30  | 600    | 1.47     | 45        | 39.07    | 0.65     |
| 30  | 300    | 1.47     | 45        | 34.54    | 0.58     |
| 30  | 6000   | 1.47     | 40        | 132.04   | 2.20     |
| 30  | 1200   | 1.47     | 40        | 50.41    | 0.84     |
| 30  | 600    | 1.47     | 40        | 40.20    | 0.67     |
| 30  | 300    | 1.47     | 40        | 35.10    | 0.59     |
| 30  | 6000   | 1.47     | 20        | 234.08   | 3.90     |
| 30  | 1200   | 1.47     | 20        | 70.82    | 1.18     |
| 30  | 600    | 1.47     | 20        | 50.41    | 0.84     |
| 30  | 300    | 1.47     | 20        | 40.20    | 0.67     |
| 30  | 6000   | 1.47     | 15        | 302.11   | 5.04     |
| 30  | 1200   | 1.47     | 15        | 84.42    | 1.41     |
| 30  | 600    | 1.47     | 15        | 57.21    | 0.95     |
| 30  | 300    | 1.47     | 15        | 43.61    | 0.73     |

**GATE DOWN TIME AT SUBJECT CROSSINGS**

Note: The first number is the limit speed for passenger trains- the second for freight trains.

| Speed                        | 60-60         |      | 60-60           |      | 15-15      |       | 60-40             |      |
|------------------------------|---------------|------|-----------------|------|------------|-------|-------------------|------|
| Segment                      | A             |      | B               |      | E          |       | F                 |      |
| Alt. & Dir.                  | 2-1200        | 1.45 | 2-1200          | 1.45 | 5-1200     | 7.04  | 1-1200            | 0.73 |
| <b>No Build<br/>Westb'nd</b> | 10-600        | 6.13 | 10-600          | 6.13 | 15-600     | 14.30 | 5-600             | 2.78 |
|                              | 4-6000        | 6.54 | 4-6000          | 6.54 | 2-6000     | 10.07 | 2-6000            | 4.40 |
|                              | 4-6000        | 6.54 | 4-6000          | 6.54 | 2-1200     | 2.81  | 2-1200            | 1.68 |
|                              |               |      | 2-1200          | 1.45 |            |       |                   |      |
|                              |               |      | 1-300           | 0.56 |            |       |                   |      |
| Sub-Total                    | 20.66         |      | 22.67           |      | 34.22      |       | 9.59              |      |
|                              | Cutting Blvd. |      | Gilman-Bancroft |      | Market-Oak |       | 29th-37th Avenues |      |

| Speed                                 | 45-45                |      | 40-20             |      |
|---------------------------------------|----------------------|------|-------------------|------|
| Segment                               | B                    |      | F                 |      |
|                                       | 2-1200               | 1.60 | 1-1200            | 0.84 |
|                                       | 10-600               | 6.51 | 5-600             | 3.35 |
|                                       | 4-6000               | 8.05 | 2-6000            | 7.80 |
|                                       | 4-6000               | 8.05 | 2-1200            | 2.36 |
|                                       | 2-1200               | 1.60 |                   |      |
|                                       | 1-300                | 0.58 |                   |      |
| Sub-Total                             | 67th,66th,65th St.'s |      | 5th Avenue        |      |
|                                       | 26.39                |      | 14.35             |      |
| <b>Totals</b>                         | Cutting Blvd.        |      | Market-Oak        |      |
| <b>East &amp; West</b>                | 41.32                |      | 68.44444          |      |
|                                       | Gilman-Bancroft      |      | 29th-37th Avenues |      |
| <b>From all Trains<br/>in Minutes</b> | 67th,66th,65th St.'s |      | 5th Avenue        |      |
|                                       | 52.78                |      | 21.63             |      |

**TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING**

| Constant  | Length | Constant | Speed MPH | Time SEC | Time MIN |
|---|--------|----------|-----------|----------|----------|
| ie. $T=30+(1200/(1.47*45))=48$ seconds or 0.8 minutes |        |          |           |          |          |
| 30  | 6000   | 1.47     | 60        | 98.03    | 1.63     |
| 30  | 1200   | 1.47     | 60        | 43.61    | 0.73     |
| 30  | 600    | 1.47     | 60        | 36.80    | 0.61     |
| 30  | 300    | 1.47     | 60        | 33.40    | 0.56     |
| 30  | 6000   | 1.47     | 45        | 120.70   | 2.01     |
| 30  | 1200   | 1.47     | 45        | 48.14    | 0.80     |
| 30  | 600    | 1.47     | 45        | 39.07    | 0.65     |
| 30  | 300    | 1.47     | 45        | 34.54    | 0.58     |
| 30  | 6000   | 1.47     | 40        | 132.04   | 2.20     |
| 30  | 1200   | 1.47     | 40        | 50.41    | 0.84     |
| 30  | 600    | 1.47     | 40        | 40.20    | 0.67     |
| 30  | 300    | 1.47     | 40        | 35.10    | 0.59     |
| 30  | 6000   | 1.47     | 20        | 234.08   | 3.90     |
| 30  | 1200   | 1.47     | 20        | 70.82    | 1.18     |
| 30  | 600    | 1.47     | 20        | 50.41    | 0.84     |
| 30  | 300    | 1.47     | 20        | 40.20    | 0.67     |
| 30  | 6000   | 1.47     | 15        | 302.11   | 5.04     |
| 30  | 1200   | 1.47     | 15        | 84.42    | 1.41     |
| 30  | 600    | 1.47     | 15        | 57.21    | 0.95     |
| 30  | 300    | 1.47     | 15        | 43.61    | 0.73     |

**GATE DOWN TIME AT SUBJECT CROSSINGS**

Note: The first number is the limit speed for passenger trains- the second for freight trains.

| Speed                             | 60-60                |       | 60-60           |      | 15-15      |       | 60-40             |      |
|-----------------------------------|----------------------|-------|-----------------|------|------------|-------|-------------------|------|
| Segment                           | A                    |       | B               |      | E          |       | F                 |      |
| Alt. & Dir.                       | 2-1200               | 1.45  | 2-1200          | 1.45 | 5-1200     | 7.04  | 1-1200            | 0.73 |
| <b>Alt "A"</b><br><b>Eastb'nd</b> | 10-600               | 6.13  | 10-600          | 6.13 | 15-600     | 14.30 | 5-600             | 2.78 |
|                                   | 4-6000               | 6.54  | 4-6000          | 6.54 | 2-6000     | 10.07 | 2-6000            | 4.40 |
|                                   | 4-6000               | 6.54  | 4-6000          | 6.54 | 2-1200     | 2.81  | 2-1200            | 1.68 |
|                                   | 5-6000               | 8.17  | 5-6000          | 8.17 |            |       |                   |      |
|                                   |                      |       | 1-1200          | 0.73 |            |       |                   |      |
|                                   |                      |       | 1-300           | 0.56 |            |       |                   |      |
| Sub-Total                         | 28.83                |       | 30.11           |      | 34.22      |       | 9.59              |      |
|                                   | Cutting Blvd.        |       | Gilman-Bancroft |      | Market-Oak |       | 29th-37th Avenues |      |
| Speed                             | 45-45                |       |                 |      |            |       | 40-20             |      |
| Segment                           | B                    |       |                 |      |            |       | F                 |      |
|                                   | 2-1200               | 1.60  |                 |      |            |       | 1-1200            | 0.84 |
|                                   | 10-600               | 6.51  |                 |      |            |       | 5-600             | 3.35 |
|                                   | 4-6000               | 8.05  |                 |      |            |       | 2-6000            | 7.80 |
|                                   | 4-6000               | 8.05  |                 |      |            |       | 2-1200            | 2.36 |
|                                   | 5-6000               | 10.06 |                 |      |            |       |                   |      |
|                                   | 1-1200               | 0.80  |                 |      |            |       |                   |      |
|                                   | 1-300                | 0.58  |                 |      |            |       |                   |      |
| Sub-Total                         | 35.65                |       |                 |      |            |       | 14.35             |      |
|                                   | 67th,66th,65th St.'s |       |                 |      |            |       | 5th Avenue        |      |

**TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING**

| Constant  | Length | Constant | Speed MPH | Time SEC | Time MIN |
|---|--------|----------|-----------|----------|----------|
| ie. $T=30+(1200/(1.47*45))=48$ seconds or 0.8 minutes |        |          |           |          |          |
| 30  | 6000   | 1.47     | 60        | 98.03    | 1.63     |
| 30  | 1200   | 1.47     | 60        | 43.61    | 0.73     |
| 30  | 600    | 1.47     | 60        | 36.80    | 0.61     |
| 30  | 300    | 1.47     | 60        | 33.40    | 0.56     |
| 30  | 6000   | 1.47     | 45        | 120.70   | 2.01     |
| 30  | 1200   | 1.47     | 45        | 48.14    | 0.80     |
| 30  | 600    | 1.47     | 45        | 39.07    | 0.65     |
| 30  | 300    | 1.47     | 45        | 34.54    | 0.58     |
| 30  | 6000   | 1.47     | 40        | 132.04   | 2.20     |
| 30  | 1200   | 1.47     | 40        | 50.41    | 0.84     |
| 30  | 600    | 1.47     | 40        | 40.20    | 0.67     |
| 30  | 300    | 1.47     | 40        | 35.10    | 0.59     |
| 30  | 6000   | 1.47     | 20        | 234.08   | 3.90     |
| 30  | 1200   | 1.47     | 20        | 70.82    | 1.18     |
| 30  | 600    | 1.47     | 20        | 50.41    | 0.84     |
| 30  | 300    | 1.47     | 20        | 40.20    | 0.67     |
| 30  | 6000   | 1.47     | 15        | 302.11   | 5.04     |
| 30  | 1200   | 1.47     | 15        | 84.42    | 1.41     |
| 30  | 600    | 1.47     | 15        | 57.21    | 0.95     |
| 30  | 300    | 1.47     | 15        | 43.61    | 0.73     |

**GATE DOWN TIME AT SUBJECT CROSSINGS**

Note: The first number is the limit speed for passenger trains- the second for freight trains.

| Speed                             | 60-60                |       | 60-60           |       | 15-15      |       | 60-40             |       |
|-----------------------------------|----------------------|-------|-----------------|-------|------------|-------|-------------------|-------|
| Segment                           | A                    |       | B               |       | E          |       | F                 |       |
| Alt. & Dir.                       | 2-1200               | 1.45  | 2-1200          | 1.45  | 5-1200     | 7.04  | 1-1200            | 0.73  |
| <b>Alt "A"</b><br><b>Westb'nd</b> | 10-600               | 6.13  | 10-600          | 6.13  | 15-600     | 14.30 | 5-600             | 2.78  |
|                                   | 4-6000               | 6.54  | 4-6000          | 6.54  | 2-6000     | 10.07 | 2-6000            | 4.40  |
|                                   | 4-6000               | 6.54  | 4-6000          | 6.54  | 2-1200     | 2.81  | 2-1200            | 1.68  |
|                                   | 5-6000               | 8.17  | 5-6000          | 8.17  |            |       |                   |       |
|                                   |                      |       | 1-1200          | 0.73  |            |       |                   |       |
|                                   |                      |       | 1-300           | 0.56  |            |       |                   |       |
| Sub-Total                         | 28.83                |       | 30.11           |       | 34.22      |       | 9.59              |       |
|                                   | Cutting Blvd.        |       | Gilman-Bancroft |       | Market-Oak |       | 29th-37th Avenues |       |
| Speed                             | 45-45                |       |                 |       |            |       | 40-20             |       |
| Segment                           | B                    |       |                 |       |            |       | F                 |       |
|                                   | 2-1200               | 1.60  |                 |       |            |       | 1-1200            | 0.84  |
|                                   | 10-600               | 6.51  |                 |       |            |       | 5-600             | 3.35  |
|                                   | 4-6000               | 8.05  |                 |       |            |       | 2-6000            | 7.80  |
|                                   | 4-6000               | 8.05  |                 |       |            |       | 2-1200            | 2.36  |
|                                   | 5-6000               | 10.06 |                 |       |            |       |                   |       |
|                                   | 1-1200               | 0.80  |                 |       |            |       |                   |       |
|                                   | 1-300                | 0.58  |                 |       |            |       |                   |       |
| Sub-Total                         | 67th,66th,65th St.'s |       | 35.65           |       | 5th Avenue |       | 14.35             |       |
| <b>Totals</b>                     | Cutting              | 57.65 | Gil-Ban         | 60.22 | Mark-Oak   | 68.44 | 29th-37th         | 19.18 |
| <b>E and W</b>                    | 67th,66th,65th St's. |       | 71.29           |       | 5th Avenue |       | 28.71             |       |



# TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

| Constant  | Length | Constant | Speed MPH | Time SEC | Time MIN |
|---|--------|----------|-----------|----------|----------|
| ie. $T=30+(1200/(1.47*45))=48$ seconds or 0.8 minutes |        |          |           |          |          |
| 30  | 6000   | 1.47     | 60        | 98.03    | 1.63     |
| 30  | 1200   | 1.47     | 60        | 43.61    | 0.73     |
| 30  | 600    | 1.47     | 60        | 36.80    | 0.61     |
| 30  | 300    | 1.47     | 60        | 33.40    | 0.56     |
| 30  | 6000   | 1.47     | 45        | 120.70   | 2.01     |
| 30  | 1200   | 1.47     | 45        | 48.14    | 0.80     |
| 30  | 600    | 1.47     | 45        | 39.07    | 0.65     |
| 30  | 300    | 1.47     | 45        | 34.54    | 0.58     |
| 30  | 6000   | 1.47     | 40        | 132.04   | 2.20     |
| 30  | 1200   | 1.47     | 40        | 50.41    | 0.84     |
| 30  | 600    | 1.47     | 40        | 40.20    | 0.67     |
| 30  | 300    | 1.47     | 40        | 35.10    | 0.59     |
| 30  | 6000   | 1.47     | 20        | 234.08   | 3.90     |
| 30  | 1200   | 1.47     | 20        | 70.82    | 1.18     |
| 30  | 600    | 1.47     | 20        | 50.41    | 0.84     |
| 30  | 300    | 1.47     | 20        | 40.20    | 0.67     |
| 30  | 6000   | 1.47     | 15        | 302.11   | 5.04     |
| 30  | 1200   | 1.47     | 15        | 84.42    | 1.41     |
| 30  | 600    | 1.47     | 15        | 57.21    | 0.95     |
| 30  | 300    | 1.47     | 15        | 43.61    | 0.73     |

## GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

| Speed                             | 60-60                |      | 60-60           |      | 15-15      |       | 60-40             |      |
|-----------------------------------|----------------------|------|-----------------|------|------------|-------|-------------------|------|
| Segment                           | A                    |      | B               |      | E          |       | F                 |      |
| Alt. & Dir.                       | 2-1200               | 1.45 | 2-1200          | 1.45 | 5-1200     | 7.04  | 1-1200            | 0.73 |
| <b>Alt "B"</b><br><b>Eastb'nd</b> | 10-600               | 6.13 | 10-600          | 6.13 | 15-600     | 14.30 | 5-600             | 2.78 |
|                                   | 3-6000               | 4.90 | 3-6000          | 4.90 | 2-6000     | 10.07 | 2-6000            | 4.40 |
|                                   | 4-6000               | 6.54 | 4-6000          | 6.54 | 2-1200     | 2.81  | 2-1200            | 1.68 |
|                                   | 3-6000               | 4.90 | 3-6000          | 4.90 |            |       |                   |      |
|                                   |                      |      | 1-1200          | 0.73 |            |       |                   |      |
|                                   |                      |      | 1-300           | 0.56 |            |       |                   |      |
| Sub-Total                         | 23.93                |      | 25.21           |      | 34.22      |       | 9.59              |      |
|                                   | Cutting Blvd.        |      | Gilman-Bancroft |      | Market-Oak |       | 29th-37th Avenues |      |
| Speed                             | 45-45                |      |                 |      |            |       | 40-20             |      |
| Segment                           | B                    |      |                 |      |            |       | F                 |      |
|                                   | 2-1200               | 1.60 |                 |      |            |       | 1-1200            | 0.84 |
|                                   | 10-600               | 6.51 |                 |      |            |       | 5-600             | 3.35 |
|                                   | 3-6000               | 6.04 |                 |      |            |       | 2-6000            | 7.80 |
|                                   | 4-6000               | 8.05 |                 |      |            |       | 2-1200            | 2.36 |
|                                   | 3-6000               | 6.04 |                 |      |            |       |                   |      |
|                                   | 1-1200               | 0.80 |                 |      |            |       |                   |      |
|                                   | 1-300                | 0.58 |                 |      |            |       |                   |      |
| Sub-Total                         | 29.61                |      |                 |      |            |       | 14.35             |      |
|                                   | 67th,66th,65th St.'s |      |                 |      |            |       | 5th Avenue        |      |

**TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING**

| Constant  | Length | Constant | Speed MPH | Time SEC | Time MIN |
|---|--------|----------|-----------|----------|----------|
| ie. $T=30+(1200/(1.47*45))=48$ seconds or 0.8 minutes |        |          |           |          |          |
| 30  | 6000   | 1.47     | 60        | 98.03    | 1.63     |
| 30  | 1200   | 1.47     | 60        | 43.61    | 0.73     |
| 30  | 600    | 1.47     | 60        | 36.80    | 0.61     |
| 30  | 300    | 1.47     | 60        | 33.40    | 0.56     |
| 30  | 6000   | 1.47     | 45        | 120.70   | 2.01     |
| 30  | 1200   | 1.47     | 45        | 48.14    | 0.80     |
| 30  | 600    | 1.47     | 45        | 39.07    | 0.65     |
| 30  | 300    | 1.47     | 45        | 34.54    | 0.58     |
| 30  | 6000   | 1.47     | 40        | 132.04   | 2.20     |
| 30  | 1200   | 1.47     | 40        | 50.41    | 0.84     |
| 30  | 600    | 1.47     | 40        | 40.20    | 0.67     |
| 30  | 300    | 1.47     | 40        | 35.10    | 0.59     |
| 30  | 6000   | 1.47     | 20        | 234.08   | 3.90     |
| 30  | 1200   | 1.47     | 20        | 70.82    | 1.18     |
| 30  | 600    | 1.47     | 20        | 50.41    | 0.84     |
| 30  | 300    | 1.47     | 20        | 40.20    | 0.67     |
| 30  | 6000   | 1.47     | 15        | 302.11   | 5.04     |
| 30  | 1200   | 1.47     | 15        | 84.42    | 1.41     |
| 30  | 600    | 1.47     | 15        | 57.21    | 0.95     |
| 30  | 300    | 1.47     | 15        | 43.61    | 0.73     |

**GATE DOWN TIME AT SUBJECT CROSSINGS**

Note: The first number is the limit speed for passenger trains- the second for freight trains.

| Speed                             | 60-60                |       | 60-60           |       | 15-15      |          | 60-40             |       |
|-----------------------------------|----------------------|-------|-----------------|-------|------------|----------|-------------------|-------|
| Segment                           | A                    |       | B               |       | E          |          | F                 |       |
| Alt. & Dir.                       | 2-1200               | 1.45  | 2-1200          | 1.45  | 5-1200     | 7.04     | 1-1200            | 0.73  |
| <b>Alt "B"</b><br><b>Westb'nd</b> | 10-600               | 6.13  | 10-600          | 6.13  | 15-600     | 14.30    | 5-600             | 2.78  |
|                                   | 3-6000               | 4.90  | 3-6000          | 4.90  | 2-6000     | 10.07    | 2-6000            | 4.40  |
|                                   | 4-6000               | 6.54  | 4-6000          | 6.54  | 2-1200     | 2.81     | 2-1200            | 1.68  |
|                                   | 3-6000               | 4.90  | 3-6000          | 4.90  |            |          |                   |       |
|                                   |                      |       | 1-1200          | 0.73  |            |          |                   |       |
|                                   |                      |       | 1-300           | 0.56  |            |          |                   |       |
| Sub-Total                         | 23.93                |       | 25.21           |       | 34.22      |          | 9.59              |       |
|                                   | Cutting Blvd.        |       | Gilman-Bancroft |       | Market-Oak |          | 29th-37th Avenues |       |
| Speed                             | 45-45                |       |                 |       |            |          | 40-20             |       |
| Segment                           | B                    |       |                 |       |            |          | F                 |       |
|                                   |                      |       | 2-1200          | 1.60  |            |          | 1-1200            | 0.84  |
|                                   |                      |       | 10-600          | 6.51  |            |          | 5-600             | 3.35  |
|                                   |                      |       | 3-6000          | 6.04  |            |          | 2-6000            | 7.80  |
|                                   |                      |       | 4-6000          | 8.05  |            |          | 2-1200            | 2.36  |
|                                   |                      |       | 3-6000          | 6.04  |            |          |                   |       |
|                                   |                      |       | 1-1200          | 0.80  |            |          |                   |       |
|                                   |                      |       | 1-300           | 0.58  |            |          |                   |       |
| Sub-Total                         | 67th,66th,65th St.'s |       | 29.61           |       | 5th Avenue |          | 14.35             |       |
| <b>Totals</b>                     | Cutting              | 47.85 | Gil-Banc        | 50.42 | Mark-Oak   | 68.44444 | 29th-37th         | 19.18 |
| <b>E &amp; W</b>                  | 67th,66th,65th St's. |       | 59.22           |       | 5th Avenue |          | 28.71             |       |

**TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING**

| Constant  | Length | Constant | Speed MPH | Time SEC | Time MIN |
|---|--------|----------|-----------|----------|----------|
| ie. $T=30+(1200/(1.47*45))=48$ seconds or 0.8 minutes |        |          |           |          |          |
| 30  | 6000   | 1.47     | 60        | 98.03    | 1.63     |
| 30  | 1200   | 1.47     | 60        | 43.61    | 0.73     |
| 30  | 600    | 1.47     | 60        | 36.80    | 0.61     |
| 30  | 300    | 1.47     | 60        | 33.40    | 0.56     |
| 30  | 6000   | 1.47     | 45        | 120.70   | 2.01     |
| 30  | 1200   | 1.47     | 45        | 48.14    | 0.80     |
| 30  | 600    | 1.47     | 45        | 39.07    | 0.65     |
| 30  | 300    | 1.47     | 45        | 34.54    | 0.58     |
| 30  | 6000   | 1.47     | 40        | 132.04   | 2.20     |
| 30  | 1200   | 1.47     | 40        | 50.41    | 0.84     |
| 30  | 600    | 1.47     | 40        | 40.20    | 0.67     |
| 30  | 300    | 1.47     | 40        | 35.10    | 0.59     |
| 30  | 6000   | 1.47     | 20        | 234.08   | 3.90     |
| 30  | 1200   | 1.47     | 20        | 70.82    | 1.18     |
| 30  | 600    | 1.47     | 20        | 50.41    | 0.84     |
| 30  | 300    | 1.47     | 20        | 40.20    | 0.67     |
| 30  | 6000   | 1.47     | 15        | 302.11   | 5.04     |
| 30  | 1200   | 1.47     | 15        | 84.42    | 1.41     |
| 30  | 600    | 1.47     | 15        | 57.21    | 0.95     |
| 30  | 300    | 1.47     | 15        | 43.61    | 0.73     |

**GATE DOWN TIME AT SUBJECT CROSSINGS**

Note: The first number is the limit speed for passenger trains- the second for freight trains.

| Speed                             | 60-60                |       | 60-60           |      | 15-15      |       | 60-40             |      |
|-----------------------------------|----------------------|-------|-----------------|------|------------|-------|-------------------|------|
| Segment                           | A                    |       | B               |      | E          |       | F                 |      |
| Alt. & Dir.                       | 2-1200               | 1.45  | 2-1200          | 1.45 | 5-1200     | 7.04  | 1-1200            | 0.73 |
| <b>Alt "C"</b><br><b>Eastb'nd</b> | 10-600               | 6.13  | 10-600          | 6.13 | 15-600     | 14.30 | 5-600             | 2.78 |
|                                   | 5-6000               | 8.17  | 5-6000          | 8.17 | 2-6000     | 10.07 | 2-6000            | 4.40 |
|                                   | 4-6000               | 6.54  | 4-6000          | 6.54 | 2-1200     | 2.81  | 2-1200            | 1.68 |
|                                   | 4-6000               | 6.54  | 4-6000          | 6.54 |            |       |                   |      |
|                                   |                      |       | 1-1200          | 0.73 |            |       |                   |      |
|                                   |                      |       | 1-300           | 0.56 |            |       |                   |      |
| Sub-Total                         | 28.83                |       | 30.11           |      | 34.22      |       | 9.59              |      |
|                                   | Cutting Blvd.        |       | Gilman-Bancroft |      | Market-Oak |       | 29th-37th Avenues |      |
| Speed                             | 45-45                |       |                 |      |            |       | 40-20             |      |
| Segment                           | B                    |       |                 |      |            |       | F                 |      |
|                                   | 2-1200               | 1.60  |                 |      |            |       | 1-1200            | 0.84 |
|                                   | 10-600               | 6.51  |                 |      |            |       | 5-600             | 3.35 |
|                                   | 5-6000               | 10.06 |                 |      |            |       | 2-6000            | 7.80 |
|                                   | 4-6000               | 8.05  |                 |      |            |       | 2-1200            | 2.36 |
|                                   | 4-6000               | 8.05  |                 |      |            |       |                   |      |
|                                   | 1-1200               | 0.80  |                 |      |            |       |                   |      |
|                                   | 1-300                | 0.58  |                 |      |            |       |                   |      |
| Sub-Total                         | 35.65                |       |                 |      |            |       | 14.35             |      |
|                                   | 67th,66th,65th St.'s |       |                 |      |            |       | 5th Avenue        |      |



# TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING

| Constant  | Length | Constant | Speed MPH | Time SEC | Time MIN |
|---|--------|----------|-----------|----------|----------|
| ie. $T=30+(1200/(1.47*45))=48$ seconds or 0.8 minutes |        |          |           |          |          |
| 30  | 6000   | 1.47     | 60        | 98.03    | 1.63     |
| 30  | 1200   | 1.47     | 60        | 43.61    | 0.73     |
| 30  | 600    | 1.47     | 60        | 36.80    | 0.61     |
| 30  | 300    | 1.47     | 60        | 33.40    | 0.56     |
| 30  | 6000   | 1.47     | 45        | 120.70   | 2.01     |
| 30  | 1200   | 1.47     | 45        | 48.14    | 0.80     |
| 30  | 600    | 1.47     | 45        | 39.07    | 0.65     |
| 30  | 300    | 1.47     | 45        | 34.54    | 0.58     |
| 30  | 6000   | 1.47     | 40        | 132.04   | 2.20     |
| 30  | 1200   | 1.47     | 40        | 50.41    | 0.84     |
| 30  | 600    | 1.47     | 40        | 40.20    | 0.67     |
| 30  | 300    | 1.47     | 40        | 35.10    | 0.59     |
| 30  | 6000   | 1.47     | 20        | 234.08   | 3.90     |
| 30  | 1200   | 1.47     | 20        | 70.82    | 1.18     |
| 30  | 600    | 1.47     | 20        | 50.41    | 0.84     |
| 30  | 300    | 1.47     | 20        | 40.20    | 0.67     |
| 30  | 6000   | 1.47     | 15        | 302.11   | 5.04     |
| 30  | 1200   | 1.47     | 15        | 84.42    | 1.41     |
| 30  | 600    | 1.47     | 15        | 57.21    | 0.95     |
| 30  | 300    | 1.47     | 15        | 43.61    | 0.73     |

## GATE DOWN TIME AT SUBJECT CROSSINGS

Note: The first number is the limit speed for passenger trains- the second for freight trains.

| Speed               | 60-60                      |                | 60-60             |                  | 15-15      |       | 60-40             |      |
|---------------------|----------------------------|----------------|-------------------|------------------|------------|-------|-------------------|------|
| Segment             | A                          |                | B                 |                  | E          |       | F                 |      |
| Alt. & Dir.         | 2-1200                     | 1.45           | 2-1200            | 1.45             | 5-1200     | 7.04  | 1-1200            | 0.73 |
| Alt "C"<br>Westb'nd | 10-600                     | 6.13           | 10-600            | 6.13             | 15-600     | 14.30 | 5-600             | 2.78 |
|                     | 5-6000                     | 8.17           | 5-6000            | 8.17             | 2-6000     | 10.07 | 2-6000            | 4.40 |
|                     | 4-6000                     | 6.54           | 4-6000            | 6.54             | 2-1200     | 2.81  | 2-1200            | 1.68 |
|                     | 5-6000                     | 8.17           | 5-6000            | 8.17             |            |       |                   |      |
|                     |                            |                | 1-1200            | 0.73             |            |       |                   |      |
|                     |                            |                | 1-300             | 0.56             |            |       |                   |      |
| Sub-Total           | 30.46                      |                | 31.74             |                  | 34.22      |       | 9.59              |      |
|                     | Cutting Blvd.              |                | Gilman-Bancroft   |                  | Market-Oak |       | 29th-37th Avenues |      |
| Speed               |                            |                | 45-45             |                  |            | 40-20 |                   |      |
| Segment             |                            |                | B                 |                  |            | F     |                   |      |
|                     |                            |                | 2-1200            | 1.60             |            |       | 1-1200            | 0.84 |
|                     |                            |                | 10-600            | 6.51             |            |       | 5-600             | 3.35 |
|                     |                            |                | 5-6000            | 10.06            |            |       | 2-6000            | 7.80 |
|                     |                            |                | 4-6000            | 8.05             |            |       | 2-1200            | 2.36 |
|                     |                            |                | 5-6000            | 10.06            |            |       |                   |      |
|                     |                            |                | 1-1200            | 0.80             |            |       |                   |      |
|                     |                            |                | 1-300             | 0.58             |            |       |                   |      |
| Sub-Total           | 67th,66th,65th St.'s 37.66 |                |                   | 5th Avenue 14.35 |            |       |                   |      |
| Totals<br>E & W     | Cutting 59.29              | Gil-Banc 61.85 | Mark-Oak 68.44444 | 29th-37th 19.18  |            |       |                   |      |
|                     | 67th,66th,65th St's. 73.30 |                |                   | 5th Avenue 28.71 |            |       |                   |      |



**TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING**

| Constant  | Length | Constant | Speed MPH | Time SEC | Time MIN |
|---|--------|----------|-----------|----------|----------|
| ie. $T=30+(1200/(1.47*45))=48$ seconds or 0.8 minutes |        |          |           |          |          |
| 30  | 6000   | 1.47     | 60        | 98.03    | 1.63     |
| 30  | 1200   | 1.47     | 60        | 43.61    | 0.73     |
| 30  | 600    | 1.47     | 60        | 36.80    | 0.61     |
| 30  | 300    | 1.47     | 60        | 33.40    | 0.56     |
| 30  | 6000   | 1.47     | 45        | 120.70   | 2.01     |
| 30  | 1200   | 1.47     | 45        | 48.14    | 0.80     |
| 30  | 600    | 1.47     | 45        | 39.07    | 0.65     |
| 30  | 300    | 1.47     | 45        | 34.54    | 0.58     |
| 30  | 6000   | 1.47     | 40        | 132.04   | 2.20     |
| 30  | 1200   | 1.47     | 40        | 50.41    | 0.84     |
| 30  | 600    | 1.47     | 40        | 40.20    | 0.67     |
| 30  | 300    | 1.47     | 40        | 35.10    | 0.59     |
| 30  | 6000   | 1.47     | 20        | 234.08   | 3.90     |
| 30  | 1200   | 1.47     | 20        | 70.82    | 1.18     |
| 30  | 600    | 1.47     | 20        | 50.41    | 0.84     |
| 30  | 300    | 1.47     | 20        | 40.20    | 0.67     |
| 30  | 6000   | 1.47     | 15        | 302.11   | 5.04     |
| 30  | 1200   | 1.47     | 15        | 84.42    | 1.41     |
| 30  | 600    | 1.47     | 15        | 57.21    | 0.95     |
| 30  | 300    | 1.47     | 15        | 43.61    | 0.73     |

**GATE DOWN TIME AT SUBJECT CROSSINGS**

Note: The first number is the limit speed for passenger trains- the second for freight trains.

| Speed                       | 60-60                |       | 60-60           |      | 15-15      |       | 60-40             |      |
|-----------------------------|----------------------|-------|-----------------|------|------------|-------|-------------------|------|
| Segment                     | A                    |       | B               |      | E          |       | F                 |      |
| Alt. & Dir.                 | 2-1200               | 1.45  | 2-1200          | 1.45 | 5-1200     | 7.04  | 1-1200            | 0.73 |
| <b>Alt "D"<br/>Eastb'nd</b> | 10-600               | 6.13  | 10-600          | 6.13 | 15-600     | 14.30 | 5-600             | 2.78 |
|                             | 4-6000               | 6.54  | 4-6000          | 6.54 | 2-6000     | 10.07 | 2-6000            | 4.40 |
|                             | 4-6000               | 6.54  | 4-6000          | 6.54 | 2-1200     | 2.81  | 2-1200            | 1.68 |
|                             | 5-6000               | 8.17  | 5-6000          | 8.17 |            |       |                   |      |
|                             |                      |       | 1-1200          | 0.73 |            |       |                   |      |
|                             |                      |       | 1-300           | 0.56 |            |       |                   |      |
| Sub-Total                   | 28.83                |       | 30.11           |      | 34.22      |       | 9.59              |      |
|                             | Cutting Blvd.        |       | Gilman-Bancroft |      | Market-Oak |       | 29th-37th Avenues |      |
| Speed                       | 45-45                |       |                 |      | 40-20      |       |                   |      |
| Segment                     | B                    |       |                 |      | F          |       |                   |      |
|                             | 2-1200               | 1.60  |                 |      | 1-1200     | 0.84  |                   |      |
|                             | 10-600               | 6.51  |                 |      | 5-600      | 3.35  |                   |      |
|                             | 4-6000               | 8.05  |                 |      | 2-6000     | 7.80  |                   |      |
|                             | 4-6000               | 8.05  |                 |      | 2-1200     | 2.36  |                   |      |
|                             | 5-6000               | 10.06 |                 |      |            |       |                   |      |
|                             | 1-1200               | 0.80  |                 |      |            |       |                   |      |
|                             | 1-300                | 0.58  |                 |      |            |       |                   |      |
| Sub-Total                   | 35.65                |       |                 |      |            |       | 14.35             |      |
|                             | 67th,66th,65th St.'s |       |                 |      |            |       | 5th Avenue        |      |

**TIME FOR A TRAIN OF GIVEN LENGTH TO CLEAR A CROSSING**

| Constant  | Length | Constant | Speed MPH | Time SEC | Time MIN |
|---|--------|----------|-----------|----------|----------|
| ie. $T=30+(1200/(1.47*45))=48$ seconds or 0.8 minutes |        |          |           |          |          |
| 30  | 6000   | 1.47     | 60        | 98.03    | 1.63     |
| 30  | 1200   | 1.47     | 60        | 43.61    | 0.73     |
| 30  | 600    | 1.47     | 60        | 36.80    | 0.61     |
| 30  | 300    | 1.47     | 60        | 33.40    | 0.56     |
| 30  | 6000   | 1.47     | 45        | 120.70   | 2.01     |
| 30  | 1200   | 1.47     | 45        | 48.14    | 0.80     |
| 30  | 600    | 1.47     | 45        | 39.07    | 0.65     |
| 30  | 300    | 1.47     | 45        | 34.54    | 0.58     |
| 30  | 6000   | 1.47     | 40        | 132.04   | 2.20     |
| 30  | 1200   | 1.47     | 40        | 50.41    | 0.84     |
| 30  | 600    | 1.47     | 40        | 40.20    | 0.67     |
| 30  | 300    | 1.47     | 40        | 35.10    | 0.59     |
| 30  | 6000   | 1.47     | 20        | 234.08   | 3.90     |
| 30  | 1200   | 1.47     | 20        | 70.82    | 1.18     |
| 30  | 600    | 1.47     | 20        | 50.41    | 0.84     |
| 30  | 300    | 1.47     | 20        | 40.20    | 0.67     |
| 30  | 6000   | 1.47     | 15        | 302.11   | 5.04     |
| 30  | 1200   | 1.47     | 15        | 84.42    | 1.41     |
| 30  | 600    | 1.47     | 15        | 57.21    | 0.95     |
| 30  | 300    | 1.47     | 15        | 43.61    | 0.73     |

**GATE DOWN TIME AT SUBJECT CROSSINGS**

Note: The first number is the limit speed for passenger trains- the second for freight trains.

| Note: The first number is the limit speed for passenger trains and second number is for freight trains |               |       |                 |       |            |       |                   |       |  |
|--|---------------|-------|-----------------|-------|------------|-------|-------------------|-------|--|
| Speed  |               | 60-60 |                 | 60-60 |            | 15-15 |                   | 60-40 |  |
| Segment  |               | A     |                 | B     |            | E     |                   | F     |  |
| Alt. & Dir.  | 2-1200        | 1.45  | 2-1200          | 1.45  | 5-1200     | 7.04  | 1-1200            | 0.73  |  |
| Alt "D"<br>Westb'nd  | 10-600        | 6.13  | 10-600          | 6.13  | 15-600     | 14.30 | 5-600             | 2.78  |  |
|  | 4-6000        | 6.54  | 4-6000          | 6.54  | 2-6000     | 10.07 | 2-6000            | 4.40  |  |
|  | 4-6000        | 6.54  | 4-6000          | 6.54  | 2-1200     | 2.81  | 2-1200            | 1.68  |  |
|  | 6-6000        | 9.80  | 6-6000          | 9.80  |            |       |                   |       |  |
|  |               |       | 1-1200          | 0.73  |            |       |                   |       |  |
|  |               |       | 1-300           | 0.56  |            |       |                   |       |  |
| Sub-Total  | 30.46         |       | 31.74           |       | 34.22      |       | 9.59              |       |  |
|  | Cutting Blvd. |       | Gilman-Bancroft |       | Market-Oak |       | 29th-37th Avenues |       |  |

| Speed     |                      | 45-45 |          | 40-20      |          |       |
|-----------|----------------------|-------|----------|------------|----------|-------|
| Segment   |                      | B     |          | F          |          |       |
|           | 2-1200               | 1.60  |          | 1-1200     | 0.84     |       |
|           | 10-600               | 6.51  |          | 5-600      | 3.35     |       |
|           | 4-6000               | 8.05  |          | 2-6000     | 7.80     |       |
|           | 4-6000               | 8.05  |          | 2-1200     | 2.36     |       |
|           | 6-6000               | 12.07 |          |            |          |       |
|           | 1-1200               | 0.80  |          |            |          |       |
|           | 1-300                | 0.58  |          |            |          |       |
| Sub-Total | 67th,66th,65th St.'s |       | 37.66    | 5th Avenue |          | 14.35 |
|           | Cutting              | 59.29 | Gil-Banc | 61.85      | Mark-Oak | 68.44 |
| Totals    |                      |       |          | 29th-37th  |          | 19.18 |
| E & W     | 67th,66th,65th St's. |       | 73.30    | 5th Avenue |          | 28.71 |

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**Appendix J.4**  
**Marine and Rail Traffic Background Data and Assumptions**





Table J.4-1  
FISCO/Port Vision 2000 EIS/EIR  
Marine / Rail Traffic Assumptions

**Marine Container Distribution**

| Type of Trip   | Project Alternative |            |                       |                       |                       |                     |
|----------------|---------------------|------------|-----------------------|-----------------------|-----------------------|---------------------|
|                | Existing            | No Project | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill |
| To / From Rail | 20%                 | 5%         | 31.1%                 | 15.0%                 | 33.8%                 | 32.8%               |
| Over-the-road  | 80%                 | 95%        | 68.9%                 | 85.0%                 | 66.2%                 | 67.2%               |

**Marine / Rail Factors**

| Parameter                       | Assumptions |      | Comment                                      |
|---------------------------------|-------------|------|--|
|                                 | Marine      | Rail |  |
| TEUs / Container                | 1.75        |      | Rail peak factor accounts for slow weekends. |
| 1996/1995 Growth                | 107%        |      |  |
| TEUs / Acre / Year              |             |      |  |
| 1995                            | 3,168       |      |  |
| 1996                            | 3,390       |      |  |
| 2010                            | 4,700       |      |  |
| Weeks per year                  | 52          | 52   |  |
| Days per week                   | 5           | 7    |  |
| Peak Week / Average Week        | 1.25        | 1.19 |  |
| Peak Weekday/Avg. Day of Week   | 1           | 1.33 |  |
| Gate Moves / Lift               | 1.33        | 1.52 |  |
| Truck Trips / Gate Move - Total | Varies      | 1.6  |  |
| Over-the-Road                   | 1.65        |      |  |
| Marine - Rail                   | 1.9         |      |  |

**Table J.4-2**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Rail Background Data**

**Peak / Average Activity Factor**  
**Based on 2010 Train Arrival and Departures (1)**

|         | <u>Total</u> |
|---------|--------------|
| Peak    | 32           |
| Average | 27           |
| Factor  | 1.19         |

**Peak Day / Average Day Factor Calculation**  
**Based On Rail Terminal Gate Transactions (2)**

| <u>Day</u> | <u>Railroad</u> |            | <u>Total</u> |
|------------|-----------------|------------|--------------|
|            | <u>SP</u>       | <u>UP</u>  |              |
| Mon        | 950             | 800        | 1,750        |
| Tue        | 950             | 970        | 1,920        |
| Wed        | 950             | 900        | 1,850        |
| Thu        | 950             | 800        | 1,750        |
| Fri        | 950             | 500        | 1,450        |
| Sat        | 250             | 700        | 950          |
| Sun        | <u>200</u>      | <u>250</u> | <u>450</u>   |
| Total      | 5,200           | 4,920      | 10,120       |
| Average    | 743             | 703        | 1,446        |
| Maximum    | <u>950</u>      | <u>970</u> | <u>1,920</u> |
| Factor     | 1.28            | 1.38       | 1.33         |

(1) Provided by Nolte and Associates.

(2) Joint Intermodal Terminal Operating Plan, Summit/Lynch consulting Engineers, et. al., Feb. 1995.

**Table J.4-3**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Marine Traffic**

**Marine Terminal Acres**

| Zone / Terminal  | Project Alternative |            |                       |                       |                       |                     |
|------------------|---------------------|------------|-----------------------|-----------------------|-----------------------|---------------------|
|                  | Existing            | No Project | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill |
| 1 New Harbor     | 0.0                 | 0.0        | 260.0                 | 100.0                 | 290.0                 | 278.0               |
| 6 Middle Harbor  | 131.7               | 131.7      | 131.7                 | 131.7                 | 131.7                 | 131.7               |
| 7 7th St. Harbor | 156.7               | 156.7      | 156.7                 | 156.7                 | 156.7                 | 156.7               |
| 8 Outer Harbor   | 180.4               | 180.4      | 180.4                 | 202.4                 | 180.4                 | 180.4               |
| Total            | 468.7               | 468.7      | 728.7                 | 590.7                 | 758.7                 | 746.7               |

**Annual Lifts (Containers)**

| Zone / Terminal  | Project Alternative |            |                       |                       |                       |                     |
|------------------|---------------------|------------|-----------------------|-----------------------|-----------------------|---------------------|
|                  | Existing            | No Project | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill |
| 1 New Harbor     | 0                   | 0          | 698,286               | 268,571               | 778,857               | 746,629             |
| 6 Middle Harbor  | 255,109             | 353,709    | 353,709               | 353,709               | 353,709               | 353,709             |
| 7 7th St. Harbor | 303,458             | 420,744    | 420,744               | 420,744               | 420,744               | 420,744             |
| 8 Outer Harbor   | 349,366             | 484,395    | 484,395               | 543,535               | 484,395               | 484,395             |
| Total (rounded)  | 907,934             | 1,258,848  | 1,957,134             | 1,586,559             | 2,037,705             | 2,005,477           |

**Weekday Truck Trips - Over-the-Road**

| Zone / Terminal  | Project Alternative |            |                       |                       |                       |                     |
|------------------|---------------------|------------|-----------------------|-----------------------|-----------------------|---------------------|
|                  | Existing            | No Project | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill |
| 1 New Harbor     | 0                   | 0          | 5,076                 | 2,409                 | 5,440                 | 5,294               |
| 6 Middle Harbor  | 2,153               | 3,545      | 2,571                 | 3,172                 | 2,470                 | 2,508               |
| 7 7th St. Harbor | 2,561               | 4,217      | 3,059                 | 3,773                 | 2,939                 | 2,983               |
| 8 Outer Harbor   | 2,949               | 4,855      | 3,521                 | 4,874                 | 3,383                 | 3,434               |
| Total            | 7,663               | 12,617     | 14,227                | 14,228                | 14,232                | 14,219              |

**Weekday Truck Trips - To and From Rail**

| Zone / Terminal  | Project Alternative |            |                       |                       |                       |                     |
|------------------|---------------------|------------|-----------------------|-----------------------|-----------------------|---------------------|
|                  | Existing            | No Project | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill |
| 1 New Harbor     | 0                   | 0          | 2,638                 | 489                   | 3,198                 | 2,975               |
| 6 Middle Harbor  | 620                 | 215        | 1,336                 | 645                   | 1,452                 | 1,409               |
| 7 7th St. Harbor | 737                 | 256        | 1,590                 | 767                   | 1,728                 | 1,677               |
| 8 Outer Harbor   | 849                 | 294        | 1,830                 | 991                   | 1,989                 | 1,930               |
| Total            | 2,206               | 765        | 7,395                 | 2,891                 | 8,368                 | 7,992               |

**Weekday Truck Trips - Total**

| Zone / Terminal  | Project Alternative |            |                       |                       |                       |                     |
|------------------|---------------------|------------|-----------------------|-----------------------|-----------------------|---------------------|
|                  | Existing            | No Project | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill |
| 1 New Harbor     | 0                   | 0          | 7,714                 | 2,898                 | 8,638                 | 8,269               |
| 6 Middle Harbor  | 2,773               | 3,760      | 3,908                 | 3,817                 | 3,923                 | 3,917               |
| 7 7th St. Harbor | 3,299               | 4,473      | 4,648                 | 4,540                 | 4,666                 | 4,660               |
| 8 Outer Harbor   | 3,798               | 5,149      | 5,351                 | 5,865                 | 5,372                 | 5,365               |
| Total            | 9,869               | 13,382     | 21,622                | 17,119                | 22,600                | 22,210              |



Table J.4-4  
FISCO/Port Vision 2000 EIS/EIR  
Rail Traffic

**Annual Lifts - Sustainable**

| Zone / Terminal | Project Alternative |            |                       |                       |                       |                     |
|-----------------|---------------------|------------|-----------------------|-----------------------|-----------------------|---------------------|
|                 | Existing            | No Project | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill |
| 3 J.I.T.        |                     |            | 1,242,000             | 450,000               | 600,000               | 1,156,000           |
| 4 SP            | 158,000             | 250,000    |                       | 400,000               | 609,000               |                     |
| 5 UP            | 102,000             | 135,000    |                       | 135,000               |                       |                     |
| 11 BN/SF        | 24,000              | 24,000     |                       |                       |                       |                     |
| Total           | 284,000             | 409,000    | 1,242,000             | 985,000               | 1,209,000             | 1,156,000           |

**Annual Lifts - Constrained**

| Zone / Terminal | Project Alternative |            |                       |                       |                       |                     |
|-----------------|---------------------|------------|-----------------------|-----------------------|-----------------------|---------------------|
|                 | Existing            | No Project | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill |
| 3 J.I.T.        |                     |            | 1,458,000             | 490,000               | 650,000               | 1,357,000           |
| 4 SP            |                     | 300,000    |                       | 450,000               | 660,000               |                     |
| 5 UP            |                     | 154,000    |                       | 154,000               |                       |                     |
| 11 BN/SF        |                     | 24,000     |                       |                       |                       |                     |
| Total           |                     | 478,000    | 1,458,000             | 1,094,000             | 1,310,000             | 1,357,000           |

**Annual Lifts - Gridlocked**

| Zone / Terminal | Project Alternative |            |                       |                       |                       |                     |
|-----------------|---------------------|------------|-----------------------|-----------------------|-----------------------|---------------------|
|                 | Existing            | No Project | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill |
| 3 J.I.T.        |                     |            | 1,782,000             | 645,000               | 860,000               | 1,658,000           |
| 4 SP            |                     | 359,000    |                       | 574,000               | 874,000               |                     |
| 5 UP            |                     | 194,000    |                       | 194,000               |                       |                     |
| 11 BN/SF        |                     | 24,000     |                       |                       |                       |                     |
| Total           |                     | 577,000    | 1,782,000             | 1,413,000             | 1,734,000             | 1,658,000           |

**Table J.4-5**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Traffic at the Port of Oakland**

**Annual Lifts - Marine Terminals**

| Alternative           | Marine Terminal Container Throughput |                |         |                          |
|-----------------------|--------------------------------------|----------------|---------|--------------------------|
|                       | Total                                | To / From Rail |         | Other<br>(over-the-road) |
|                       |                                      | Percent        | Number  |                          |
| Existing              | 907,934                              | 20%            | 181,587 | 726,347                  |
| No Project            | 1,258,848                            | 5%             | 62,942  | 1,195,906                |
| Max. Marine/Max. Rail | 1,957,134                            | 31.1%          | 608,669 | 1,348,465                |
| Min. Marine/Min. Rail | 1,586,559                            | 15.0%          | 237,984 | 1,348,575                |
| Max. Marine/Min. Rail | 2,037,705                            | 33.8%          | 688,744 | 1,348,961                |
| Reduced Harbor Fill   | 2,005,477                            | 32.8%          | 657,796 | 1,347,680                |

**Annual Lifts - Railyards**

| Alternative           | Rail Intermodal Throughput |                      |                  |         |                             |         |           |
|-----------------------|----------------------------|----------------------|------------------|---------|-----------------------------|---------|-----------|
|                       | Capacity                   | Operating Efficiency | To / From Marine |         | Other (domestic & trailers) |         | Total     |
|                       |                            |                      | Number           | Percent | Number                      | Percent |           |
| Existing              | 284,000                    | Existing             | 181,587          | 64%     | 102,413                     | 36%     | 284,000   |
| No Project            | 577,000                    | Gridlocked           | 62,942           | 11%     | 514,058                     | 89%     | 577,000   |
| Max. Marine/Max. Rail | 1,242,000                  | Sustainable          | 608,669          | 53%     | 531,000                     | 47%     | 1,139,669 |
| Min. Marine/Min. Rail | 773,000                    | Sustainable          | 237,984          | 31%     | 531,000                     | 69%     | 768,984   |
| Max. Marine/Min. Rail | 1,310,000                  | Constrained          | 688,744          | 56%     | 531,000                     | 44%     | 1,219,744 |
| Reduced Harbor Fill   | 1,357,000                  | Constrained          | 657,796          | 55%     | 531,000                     | 45%     | 1,188,796 |

(2)

**Weekday Truck Trips**

| Alternative           | Marine Terminals |                |         |                          | Rail Intermodal Terminals |                  |         |                             |         |
|-----------------------|------------------|----------------|---------|--------------------------|---------------------------|------------------|---------|-----------------------------|---------|
|                       | Total            | To / From Rail |         | Other<br>(over-the-road) | Total                     | To / From Marine |         | Other (domestic & trailers) |         |
|                       |                  | Number         | Percent |                          |                           | Number           | Percent | Number (3)                  | Percent |
| Existing              | 9,869            | 2,206          | 22.4%   | 7,663                    | 2,987                     | 2,206            | 74%     | 781                         | 26%     |
| No Project            | 13,382           | 765            | 5.7%    | 12,617                   | 5,209                     | 765              | 15%     | 4,444                       | 85%     |
| Max. Marine/Max. Rail | 21,622           | 7,395          | 34.2%   | 14,227                   | 11,985                    | 7,395            | 62%     | 4,590                       | 38%     |
| Min. Marine/Min. Rail | 17,119           | 2,891          | 16.9%   | 14,228                   | 7,482                     | 2,891            | 39%     | 4,590                       | 61%     |
| Max. Marine/Min. Rail | 22,600           | 8,368          | 37.0%   | 14,232                   | 12,958                    | 8,368            | 65%     | 4,590                       | 35%     |
| Reduced Harbor Fill   | 22,210           | 7,992          | 36.0%   | 14,219                   | 12,582                    | 7,992            | 64%     | 4,590                       | 36%     |

(1) The surplus capacity for each alternative shows the number of additional lifts that could be accommodated at the indicated operating efficiency level.

(2) The domestic and trailer demand at the railyards would be 531,000 (Summit Lynch 1995); therefore, 17,000 containers will be diverted.

(3) Domestic and trailer truck trips at the railyards (for the project alternatives) are proportional to the number of annual lifts.

**Table J.4-6**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Marine Traffic**

**Marine Terminal Acres**

| Zone / Terminal  | Project Alternative |            |                       |                       |                       |                     |
|------------------|---------------------|------------|-----------------------|-----------------------|-----------------------|---------------------|
|                  | Existing            | No Project | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill |
| 1 New Harbor     | 0.0                 | 0.0        | 260.0                 | 100.0                 | 290.0                 | 278.0               |
| 6 Middle Harbor  | 131.7               | 131.7      | 131.7                 | 131.7                 | 131.7                 | 131.7               |
| 7 7th St. Harbor | 156.7               | 156.7      | 156.7                 | 156.7                 | 156.7                 | 156.7               |
| 8 Outer Harbor   | 180.4               | 180.4      | 180.4                 | 202.4                 | 180.4                 | 180.4               |
| Total            | 468.7               | 468.7      | 728.7                 | 590.7                 | 758.7                 | 746.7               |

**Employees**

| Employees / Acre | 2.73                | 3.91       | 3.91                  | 3.91                  | 3.91                  | 3.91                |
|------------------|---------------------|------------|-----------------------|-----------------------|-----------------------|---------------------|
| Zone / Terminal  | Project Alternative |            |                       |                       |                       |                     |
|                  | Existing            | No Project | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill |
| 1 New Harbor     | 0                   | 0          | 1,018                 | 391                   | 1,135                 | 1,088.2             |
| 6 Middle Harbor  | 360                 | 516        | 516                   | 516                   | 516                   | 515.5               |
| 7 7th St. Harbor | 428                 | 613        | 613                   | 613                   | 613                   | 613.2               |
| 8 Outer Harbor   | 492.6               | ~ 706.0    | 706.0                 | 792.2                 | 706.0                 | 706.0               |
| Total            | 1,280.3             | 1,834.7    | 2,852.4               | 2,312.3               | 2,969.8               | 2,922.9             |

|   |                     |      |      |
|---|---------------------|------|------|
| A | AM Trips            | 348  | 566  |
| U | AM Trips / Employee | 0.27 | 0.31 |
| T | PM Trips            | 359  | 514  |
| O | PM Trips / Employee | 0.28 | 0.28 |

**Appendix J.5**  
**Peak Hour Marine Terminal Truck Traffic Generation**





**Table J.5-1**  
**Marine Terminal Travel Characteristics**  
**Existing Conditions**

**Auto Trips**

| Hour<br>Beginning | Zone 6                 |     |       | Zone 7              |     |       | Zone 8                |     |       | Total |     |       |
|-------------------|------------------------|-----|-------|---------------------|-----|-------|-----------------------|-----|-------|-------|-----|-------|
|                   | Middle Harbor Terminal |     |       | 7th Street Terminal |     |       | Outer Harbor Terminal |     |       | In    | Out | Total |
|                   | In                     | Out | Total | In                  | Out | Total | In                    | Out | Total |       |     |       |
| 6:00              | 93                     | 5   | 98    | 110                 | 6   | 116   | 127                   | 7   | 134   | 330   | 18  | 348   |
| 7:00              | 106                    | 6   | 112   | 126                 | 7   | 133   | 145                   | 8   | 153   | 377   | 21  | 398   |
| 8:00              | 62                     | 3   | 65    | 73                  | 4   | 77    | 85                    | 4   | 89    | 220   | 11  | 231   |
| 9:00              | 52                     | 6   | 58    | 62                  | 7   | 69    | 72                    | 8   | 80    | 186   | 21  | 207   |
| 10:00             | 40                     | 27  | 67    | 48                  | 32  | 80    | 55                    | 37  | 92    | 143   | 96  | 239   |
| 11:00             | 43                     | 43  | 86    | 51                  | 51  | 102   | 58                    | 58  | 116   | 152   | 152 | 304   |
| 12:00             | 47                     | 47  | 94    | 56                  | 56  | 112   | 64                    | 64  | 128   | 167   | 167 | 334   |
| 13:00             | 39                     | 39  | 78    | 46                  | 46  | 92    | 53                    | 53  | 106   | 138   | 138 | 276   |
| 14:00             | 16                     | 65  | 81    | 19                  | 77  | 96    | 22                    | 89  | 111   | 57    | 231 | 288   |
| 15:00             | 5                      | 96  | 101   | 6                   | 114 | 120   | 7                     | 131 | 138   | 18    | 341 | 359   |
| 16:00             | 5                      | 94  | 99    | 6                   | 112 | 118   | 7                     | 128 | 135   | 18    | 334 | 352   |
| 17:00             | 8                      | 74  | 82    | 10                  | 88  | 98    | 11                    | 101 | 112   | 29    | 263 | 292   |

**Truck Trips**

| Hour<br>Beginning | Zone 6                 |     |       | Zone 7              |     |       | Zone 8                |     |       | Total |     |       |
|-------------------|------------------------|-----|-------|---------------------|-----|-------|-----------------------|-----|-------|-------|-----|-------|
|                   | Middle Harbor Terminal |     |       | 7th Street Terminal |     |       | Outer Harbor Terminal |     |       | In    | Out | Total |
|                   | In                     | Out | Total | In                  | Out | Total | In                    | Out | Total |       |     |       |
| 6:00              | 73                     | 0   | 73    | 76                  | 0   | 76    | 91                    | 0   | 91    | 240   | 0   | 240   |
| 7:00              | 90                     | 0   | 90    | 94                  | 0   | 94    | 113                   | 0   | 113   | 297   | 0   | 297   |
| 8:00              | 140                    | 149 | 289   | 147                 | 156 | 303   | 176                   | 188 | 364   | 463   | 493 | 956   |
| 9:00              | 206                    | 252 | 458   | 216                 | 264 | 480   | 259                   | 317 | 576   | 681   | 833 | 1,514 |
| 10:00             | 169                    | 187 | 356   | 177                 | 196 | 373   | 212                   | 236 | 448   | 558   | 619 | 1,177 |
| 11:00             | 213                    | 191 | 404   | 223                 | 200 | 423   | 268                   | 240 | 508   | 704   | 631 | 1,335 |
| 12:00             | 88                     | 150 | 238   | 92                  | 157 | 249   | 110                   | 189 | 299   | 290   | 496 | 786   |
| 13:00             | 209                    | 149 | 358   | 219                 | 156 | 375   | 263                   | 187 | 450   | 691   | 492 | 1,183 |
| 14:00             | 160                    | 185 | 345   | 168                 | 194 | 362   | 202                   | 233 | 435   | 530   | 612 | 1,142 |
| 15:00             | 115                    | 138 | 253   | 120                 | 144 | 264   | 144                   | 173 | 317   | 379   | 455 | 834   |
| 16:00             | 30                     | 73  | 103   | 32                  | 76  | 108   | 38                    | 91  | 129   | 100   | 240 | 340   |
| 17:00             | 0                      | 15  | 15    | 0                   | 16  | 16    | 0                     | 19  | 19    | 0     | 50  | 50    |

**Passenger Car Equivalents for Trucks (1 truck = 2 passenger cars)**

| Hour<br>Beginning | Zone 6                 |     |       | Zone 7              |     |       | Zone 8                |     |       | Total |       |       |
|-------------------|------------------------|-----|-------|---------------------|-----|-------|-----------------------|-----|-------|-------|-------|-------|
|                   | Middle Harbor Terminal |     |       | 7th Street Terminal |     |       | Outer Harbor Terminal |     |       | In    | Out   | Total |
|                   | In                     | Out | Total | In                  | Out | Total | In                    | Out | Total |       |       |       |
| 6:00              | 146                    | 0   | 146   | 152                 | 0   | 152   | 182                   | 0   | 182   | 480   | 0     | 480   |
| 7:00              | 180                    | 0   | 180   | 188                 | 0   | 188   | 226                   | 0   | 226   | 594   | 0     | 594   |
| 8:00              | 280                    | 298 | 578   | 294                 | 312 | 606   | 352                   | 376 | 728   | 926   | 986   | 1,912 |
| 9:00              | 412                    | 504 | 916   | 432                 | 528 | 960   | 518                   | 634 | 1,152 | 1,362 | 1,666 | 3,028 |
| 10:00             | 338                    | 374 | 712   | 354                 | 392 | 746   | 424                   | 472 | 896   | 1,116 | 1,238 | 2,354 |
| 11:00             | 426                    | 382 | 808   | 446                 | 400 | 846   | 536                   | 480 | 1,016 | 1,408 | 1,262 | 2,670 |
| 12:00             | 176                    | 300 | 476   | 184                 | 314 | 498   | 220                   | 378 | 598   | 580   | 992   | 1,572 |
| 13:00             | 418                    | 298 | 716   | 438                 | 312 | 750   | 526                   | 374 | 900   | 1,382 | 984   | 2,366 |
| 14:00             | 320                    | 370 | 690   | 336                 | 388 | 724   | 404                   | 466 | 870   | 1,060 | 1,224 | 2,284 |
| 15:00             | 230                    | 276 | 506   | 240                 | 288 | 528   | 288                   | 346 | 634   | 758   | 910   | 1,668 |
| 16:00             | 60                     | 146 | 206   | 64                  | 152 | 216   | 76                    | 182 | 258   | 200   | 480   | 680   |
| 17:00             | 0                      | 30  | 30    | 0                   | 32  | 32    | 0                     | 38  | 38    | 0     | 100   | 100   |

**Total Passenger Car Equivalents for Trucks and Autos**

| Hour<br>Beginning | Zone 6                 |     |       | Zone 7              |     |       | Zone 8                |     |       | Total |       |       |
|-------------------|------------------------|-----|-------|---------------------|-----|-------|-----------------------|-----|-------|-------|-------|-------|
|                   | Middle Harbor Terminal |     |       | 7th Street Terminal |     |       | Outer Harbor Terminal |     |       | In    | Out   | Total |
|                   | In                     | Out | Total | In                  | Out | Total | In                    | Out | Total |       |       |       |
| 6:00              | 239                    | 5   | 244   | 262                 | 6   | 268   | 309                   | 7   | 316   | 810   | 18    | 828   |
| 7:00              | 286                    | 6   | 292   | 314                 | 7   | 321   | 371                   | 8   | 379   | 971   | 21    | 992   |
| 8:00              | 342                    | 301 | 643   | 367                 | 316 | 683   | 437                   | 380 | 817   | 1,146 | 997   | 2,143 |
| 9:00              | 464                    | 510 | 974   | 494                 | 535 | 1,029 | 590                   | 642 | 1,232 | 1,548 | 1,687 | 3,235 |
| 10:00             | 378                    | 401 | 779   | 402                 | 424 | 826   | 479                   | 509 | 988   | 1,259 | 1,334 | 2,593 |
| 11:00             | 469                    | 425 | 894   | 497                 | 451 | 948   | 594                   | 538 | 1,132 | 1,560 | 1,414 | 2,974 |
| 12:00             | 223                    | 347 | 570   | 240                 | 370 | 610   | 284                   | 442 | 726   | 747   | 1,159 | 1,906 |
| 13:00             | 457                    | 337 | 794   | 484                 | 358 | 842   | 579                   | 427 | 1,006 | 1,520 | 1,122 | 2,642 |
| 14:00             | 336                    | 435 | 771   | 355                 | 465 | 820   | 426                   | 555 | 981   | 1,117 | 1,455 | 2,572 |
| 15:00             | 235                    | 372 | 607   | 246                 | 402 | 648   | 295                   | 477 | 772   | 776   | 1,251 | 2,027 |
| 16:00             | 65                     | 240 | 305   | 70                  | 264 | 334   | 83                    | 310 | 393   | 218   | 814   | 1,032 |
| 17:00             | 8                      | 104 | 112   | 10                  | 120 | 130   | 11                    | 139 | 150   | 29    | 363   | 392   |

**Table J.5-2  
Marine Terminal Travel Characteristics  
No Project Alternative**

**Auto Trips**

| Hour<br>Beginning | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |     |       |
|-------------------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-----|-------|
|                   | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out | Total |
| 7:00              | 151                              | 8   | 159   | 180                           | 9   | 189   | 207                             | 11  | 218   | 538   | 28  | 566   |
| 8:00              | 88                               | 5   | 93    | 105                           | 6   | 111   | 121                             | 6   | 127   | 314   | 17  | 331   |
| 9:00              | 75                               | 8   | 83    | 89                            | 10  | 99    | 103                             | 11  | 114   | 267   | 29  | 296   |
| 10:00             | 57                               | 38  | 95    | 68                            | 46  | 114   | 79                              | 52  | 131   | 204   | 136 | 340   |
| 11:00             | 61                               | 61  | 122   | 73                            | 73  | 146   | 84                              | 84  | 168   | 218   | 218 | 436   |
| 12:00             | 67                               | 67  | 134   | 80                            | 80  | 160   | 92                              | 92  | 184   | 239   | 239 | 478   |
| 13:00             | 56                               | 56  | 112   | 66                            | 66  | 132   | 76                              | 76  | 152   | 198   | 198 | 396   |
| 14:00             | 23                               | 93  | 116   | 28                            | 110 | 138   | 32                              | 127 | 159   | 83    | 330 | 413   |
| 15:00             | 7                                | 137 | 144   | 9                             | 163 | 172   | 10                              | 188 | 198   | 26    | 488 | 514   |
| 16:00             | 7                                | 134 | 141   | 8                             | 160 | 168   | 10                              | 184 | 194   | 25    | 478 | 503   |
| 17:00             | 12                               | 106 | 118   | 14                            | 126 | 140   | 16                              | 145 | 161   | 42    | 377 | 419   |

**Truck Trips**

| Hour<br>Beginning | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |       |       |
|-------------------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-------|-------|
|                   | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out   | Total |
| 7:00              | 113                              | 0   | 113   | 134                           | 0   | 134   | 154                             | 0   | 154   | 401   | 0     | 401   |
| 8:00              | 177                              | 188 | 365   | 210                           | 224 | 434   | 242                             | 257 | 499   | 629   | 669   | 1,298 |
| 9:00              | 259                              | 318 | 577   | 309                           | 378 | 687   | 355                             | 435 | 790   | 923   | 1,131 | 2,054 |
| 10:00             | 213                              | 236 | 449   | 253                           | 281 | 534   | 291                             | 323 | 614   | 757   | 840   | 1,597 |
| 11:00             | 268                              | 240 | 508   | 319                           | 286 | 605   | 367                             | 329 | 696   | 954   | 855   | 1,809 |
| 12:00             | 111                              | 189 | 300   | 132                           | 225 | 357   | 151                             | 259 | 410   | 394   | 673   | 1,067 |
| 13:00             | 264                              | 187 | 451   | 314                           | 223 | 537   | 361                             | 256 | 617   | 939   | 666   | 1,605 |
| 14:00             | 202                              | 233 | 435   | 240                           | 277 | 517   | 277                             | 319 | 596   | 719   | 829   | 1,548 |
| 15:00             | 145                              | 173 | 318   | 172                           | 206 | 378   | 198                             | 237 | 435   | 515   | 616   | 1,131 |
| 16:00             | 38                               | 91  | 129   | 46                            | 109 | 155   | 52                              | 125 | 177   | 136   | 325   | 461   |
| 17:00             | 0                                | 19  | 19    | 0                             | 23  | 23    | 0                               | 26  | 26    | 0     | 68    | 68    |

**Passenger Car Equivalents for Trucks (1 truck = 2 passenger cars)**

| Hour<br>Beginning | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |       |       |
|-------------------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-------|-------|
|                   | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out   | Total |
| 7:00              | 226                              | 0   | 226   | 268                           | 0   | 268   | 308                             | 0   | 308   | 802   | 0     | 802   |
| 8:00              | 354                              | 376 | 730   | 420                           | 448 | 868   | 484                             | 514 | 998   | 1,258 | 1,338 | 2,596 |
| 9:00              | 518                              | 636 | 1,154 | 618                           | 756 | 1,374 | 710                             | 870 | 1,580 | 1,846 | 2,262 | 4,108 |
| 10:00             | 426                              | 472 | 898   | 506                           | 562 | 1,068 | 582                             | 646 | 1,228 | 1,514 | 1,680 | 3,194 |
| 11:00             | 536                              | 480 | 1,016 | 638                           | 572 | 1,210 | 734                             | 658 | 1,392 | 1,908 | 1,710 | 3,618 |
| 12:00             | 222                              | 378 | 600   | 264                           | 450 | 714   | 302                             | 518 | 820   | 788   | 1,346 | 2,134 |
| 13:00             | 528                              | 374 | 902   | 628                           | 446 | 1,074 | 722                             | 512 | 1,234 | 1,878 | 1,332 | 3,210 |
| 14:00             | 404                              | 466 | 870   | 480                           | 554 | 1,034 | 554                             | 638 | 1,192 | 1,438 | 1,658 | 3,096 |
| 15:00             | 290                              | 346 | 636   | 344                           | 412 | 756   | 396                             | 474 | 870   | 1,030 | 1,232 | 2,262 |
| 16:00             | 76                               | 182 | 258   | 92                            | 218 | 310   | 104                             | 250 | 354   | 272   | 650   | 922   |
| 17:00             | 0                                | 38  | 38    | 0                             | 46  | 46    | 0                               | 52  | 52    | 0     | 136   | 136   |

**Total Passenger Car Equivalents for Trucks and Autos**

| Hour<br>Beginning | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |       |       |
|-------------------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-------|-------|
|                   | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out   | Total |
| 7:00              | 377                              | 8   | 385   | 448                           | 9   | 457   | 515                             | 11  | 526   | 1,340 | 28    | 1,368 |
| 8:00              | 442                              | 381 | 823   | 525                           | 454 | 979   | 605                             | 520 | 1,125 | 1,572 | 1,355 | 2,927 |
| 9:00              | 593                              | 644 | 1,237 | 707                           | 766 | 1,473 | 813                             | 881 | 1,694 | 2,113 | 2,291 | 4,404 |
| 10:00             | 483                              | 510 | 993   | 574                           | 608 | 1,182 | 661                             | 698 | 1,359 | 1,718 | 1,816 | 3,534 |
| 11:00             | 597                              | 541 | 1,138 | 711                           | 645 | 1,356 | 818                             | 742 | 1,560 | 2,126 | 1,928 | 4,054 |
| 12:00             | 289                              | 445 | 734   | 344                           | 530 | 874   | 394                             | 610 | 1,004 | 1,027 | 1,585 | 2,612 |
| 13:00             | 584                              | 430 | 1,014 | 694                           | 512 | 1,206 | 798                             | 588 | 1,386 | 2,076 | 1,530 | 3,606 |
| 14:00             | 427                              | 559 | 986   | 508                           | 664 | 1,172 | 586                             | 765 | 1,351 | 1,521 | 1,988 | 3,509 |
| 15:00             | 297                              | 483 | 780   | 353                           | 575 | 928   | 406                             | 662 | 1,068 | 1,056 | 1,720 | 2,776 |
| 16:00             | 83                               | 316 | 399   | 100                           | 378 | 478   | 114                             | 434 | 548   | 297   | 1,128 | 1,425 |
| 17:00             | 12                               | 144 | 156   | 14                            | 172 | 186   | 16                              | 197 | 213   | 42    | 513   | 555   |



**Table J.5-3**  
**Marine Terminal Travel Characteristics**  
**Maximum Marine/Maximum Rail Alternative**

**Auto Trips**

| Hour Beginning | Zone 1<br>New Harbor Terminal |     |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |     |       |
|----------------|-------------------------------|-----|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-----|-------|
|                | In                            | Out | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out | Total |
| 7:00           | 299                           | 16  | 315   | 151                              | 8   | 159   | 180                           | 9   | 189   | 207                             | 11  | 218   | 837   | 44  | 881   |
| 8:00           | 175                           | 9   | 184   | 88                               | 5   | 93    | 105                           | 6   | 111   | 121                             | 6   | 127   | 489   | 26  | 515   |
| 9:00           | 148                           | 16  | 164   | 75                               | 8   | 83    | 89                            | 10  | 99    | 103                             | 11  | 114   | 415   | 45  | 460   |
| 10:00          | 113                           | 76  | 189   | 57                               | 38  | 95    | 68                            | 46  | 114   | 79                              | 52  | 131   | 317   | 212 | 529   |
| 11:00          | 121                           | 121 | 242   | 61                               | 61  | 122   | 73                            | 73  | 146   | 84                              | 84  | 168   | 339   | 339 | 678   |
| 12:00          | 133                           | 133 | 266   | 67                               | 67  | 134   | 80                            | 80  | 160   | 92                              | 92  | 184   | 372   | 372 | 744   |
| 13:00          | 110                           | 110 | 220   | 56                               | 56  | 112   | 66                            | 66  | 132   | 76                              | 76  | 152   | 308   | 308 | 616   |
| 14:00          | 46                            | 183 | 229   | 23                               | 93  | 116   | 28                            | 110 | 138   | 32                              | 127 | 159   | 129   | 513 | 642   |
| 15:00          | 14                            | 271 | 285   | 7                                | 137 | 144   | 9                             | 163 | 172   | 10                              | 188 | 198   | 40    | 759 | 799   |
| 16:00          | 14                            | 265 | 279   | 7                                | 134 | 141   | 8                             | 160 | 168   | 10                              | 184 | 194   | 39    | 743 | 782   |
| 17:00          | 23                            | 208 | 231   | 12                               | 106 | 118   | 14                            | 126 | 140   | 16                              | 145 | 161   | 65    | 585 | 650   |

**Truck Trips**

| Hour Beginning | Zone 1<br>Outer Harbor Terminal |     |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |       |       |
|----------------|---------------------------------|-----|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-------|-------|
|                | In                              | Out | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out   | Total |
| 7:00           | 231                             | 0   | 231   | 117                              | 0   | 117   | 139                           | 0   | 139   | 160                             | 0   | 160   | 647   | 0     | 647   |
| 8:00           | 362                             | 386 | 748   | 183                              | 195 | 378   | 218                           | 232 | 450   | 251                             | 268 | 519   | 1,014 | 1,081 | 2,095 |
| 9:00           | 532                             | 652 | 1,184 | 270                              | 330 | 600   | 321                           | 393 | 714   | 369                             | 452 | 821   | 1,492 | 1,827 | 3,319 |
| 10:00          | 436                             | 484 | 920   | 221                              | 245 | 466   | 263                           | 292 | 555   | 303                             | 336 | 639   | 1,223 | 1,357 | 2,580 |
| 11:00          | 550                             | 493 | 1,043 | 279                              | 250 | 529   | 331                           | 297 | 628   | 381                             | 342 | 723   | 1,541 | 1,382 | 2,923 |
| 12:00          | 227                             | 388 | 615   | 115                              | 197 | 312   | 137                           | 234 | 371   | 157                             | 269 | 426   | 636   | 1,088 | 1,724 |
| 13:00          | 541                             | 384 | 925   | 274                              | 195 | 469   | 326                           | 231 | 557   | 375                             | 266 | 641   | 1,516 | 1,076 | 2,592 |
| 14:00          | 415                             | 478 | 893   | 210                              | 242 | 452   | 250                           | 288 | 538   | 288                             | 331 | 619   | 1,163 | 1,339 | 2,502 |
| 15:00          | 297                             | 356 | 653   | 150                              | 180 | 330   | 179                           | 214 | 393   | 206                             | 247 | 453   | 832   | 997   | 1,829 |
| 16:00          | 79                              | 188 | 267   | 40                               | 95  | 135   | 47                            | 113 | 160   | 54                              | 130 | 184   | 220   | 526   | 746   |
| 17:00          | 0                               | 39  | 39    | 0                                | 20  | 20    | 0                             | 24  | 24    | 0                               | 27  | 27    | 0     | 110   | 110   |

**Passenger Car Equivalents for Trucks (1 truck = 2 passenger cars)**

| Hour Beginning | Zone 1<br>Outer Harbor Terminal |       |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |       |       |
|----------------|---------------------------------|-------|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-------|-------|
|                | In                              | Out   | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out   | Total |
| 7:00           | 462                             | 0     | 462   | 234                              | 0   | 234   | 278                           | 0   | 278   | 320                             | 0   | 320   | 1,294 | 0     | 1,294 |
| 8:00           | 724                             | 772   | 1,496 | 366                              | 390 | 756   | 436                           | 464 | 900   | 502                             | 536 | 1,038 | 2,028 | 2,162 | 4,190 |
| 9:00           | 1,064                           | 1,304 | 2,368 | 540                              | 660 | 1,200 | 642                           | 786 | 1,428 | 738                             | 904 | 1,642 | 2,984 | 3,654 | 6,638 |
| 10:00          | 872                             | 968   | 1,840 | 442                              | 490 | 932   | 526                           | 584 | 1,110 | 606                             | 672 | 1,278 | 2,446 | 2,714 | 5,160 |
| 11:00          | 1,100                           | 986   | 2,086 | 558                              | 500 | 1,058 | 662                           | 594 | 1,256 | 762                             | 684 | 1,446 | 3,082 | 2,764 | 5,846 |
| 12:00          | 454                             | 776   | 1,230 | 230                              | 394 | 624   | 274                           | 468 | 742   | 314                             | 538 | 852   | 1,272 | 2,176 | 3,448 |
| 13:00          | 1,082                           | 768   | 1,850 | 548                              | 390 | 938   | 652                           | 462 | 1,114 | 750                             | 532 | 1,282 | 3,032 | 2,152 | 5,184 |
| 14:00          | 830                             | 956   | 1,786 | 420                              | 484 | 904   | 500                           | 576 | 1,076 | 576                             | 662 | 1,238 | 2,326 | 2,678 | 5,004 |
| 15:00          | 594                             | 712   | 1,306 | 300                              | 360 | 660   | 358                           | 428 | 786   | 412                             | 494 | 906   | 1,664 | 1,994 | 3,658 |
| 16:00          | 158                             | 376   | 534   | 80                               | 190 | 270   | 94                            | 226 | 320   | 108                             | 260 | 368   | 440   | 1,052 | 1,492 |
| 17:00          | 0                               | 78    | 78    | 0                                | 40  | 40    | 0                             | 48  | 48    | 0                               | 54  | 54    | 0     | 220   | 220   |

**Total Passenger Car Equivalents for Trucks and Autos**

| Hour Beginning | Zone 1<br>Outer Harbor Terminal |       |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |       |       |
|----------------|---------------------------------|-------|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-------|-------|
|                | In                              | Out   | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out   | Total |
| 7:00           | 761                             | 16    | 777   | 385                              | 8   | 393   | 458                           | 9   | 467   | 527                             | 11  | 538   | 2,131 | 44    | 2,175 |
| 8:00           | 899                             | 781   | 1,680 | 454                              | 395 | 849   | 541                           | 470 | 1,011 | 623                             | 542 | 1,165 | 2,517 | 2,188 | 4,705 |
| 9:00           | 1,212                           | 1,320 | 2,532 | 615                              | 668 | 1,283 | 731                           | 796 | 1,527 | 841                             | 915 | 1,756 | 3,399 | 3,699 | 7,098 |
| 10:00          | 985                             | 1,044 | 2,029 | 499                              | 528 | 1,027 | 594                           | 630 | 1,224 | 685                             | 724 | 1,409 | 2,763 | 2,926 | 5,689 |
| 11:00          | 1,221                           | 1,107 | 2,328 | 619                              | 561 | 1,180 | 735                           | 667 | 1,402 | 846                             | 768 | 1,614 | 3,421 | 3,103 | 6,524 |
| 12:00          | 587                             | 909   | 1,496 | 297                              | 461 | 758   | 354                           | 548 | 902   | 406                             | 630 | 1,036 | 1,644 | 2,548 | 4,192 |
| 13:00          | 1,192                           | 878   | 2,070 | 604                              | 446 | 1,050 | 718                           | 528 | 1,246 | 826                             | 608 | 1,434 | 3,340 | 2,460 | 5,800 |
| 14:00          | 876                             | 1,139 | 2,015 | 443                              | 577 | 1,020 | 528                           | 686 | 1,214 | 608                             | 789 | 1,397 | 2,455 | 3,191 | 5,646 |
| 15:00          | 608                             | 983   | 1,591 | 307                              | 497 | 804   | 367                           | 591 | 958   | 422                             | 682 | 1,104 | 1,704 | 2,753 | 4,457 |
| 16:00          | 172                             | 641   | 813   | 87                               | 324 | 411   | 102                           | 386 | 488   | 118                             | 444 | 562   | 479   | 1,795 | 2,274 |
| 17:00          | 23                              | 286   | 309   | 12                               | 146 | 158   | 14                            | 174 | 188   | 16                              | 199 | 215   | 65    | 805   | 870   |



**Table J.5-4**  
**Marine Terminal Travel Characteristics**  
**Minimum Marine/Minimum Rail Alternative**

**Auto Trips**

| Hour Beginning | Zone 1<br>New Harbor Terminal |     |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |     |       |
|----------------|-------------------------------|-----|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-----|-------|
|                | In                            | Out | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out | Total |
| 7:00           | 115                           | 6   | 121   | 152                              | 8   | 160   | 180                           | 9   | 189   | 232                             | 12  | 244   | 679   | 35  | 714   |
| 8:00           | 67                            | 4   | 71    | 89                               | 5   | 94    | 105                           | 6   | 111   | 136                             | 7   | 143   | 397   | 22  | 419   |
| 9:00           | 57                            | 6   | 63    | 75                               | 8   | 83    | 89                            | 10  | 99    | 116                             | 13  | 129   | 337   | 37  | 374   |
| 10:00          | 44                            | 29  | 73    | 58                               | 38  | 96    | 68                            | 46  | 114   | 88                              | 59  | 147   | 258   | 172 | 430   |
| 11:00          | 46                            | 46  | 92    | 61                               | 61  | 122   | 73                            | 73  | 146   | 94                              | 94  | 188   | 274   | 274 | 548   |
| 12:00          | 51                            | 51  | 102   | 67                               | 67  | 134   | 80                            | 80  | 160   | 103                             | 103 | 206   | 301   | 301 | 602   |
| 13:00          | 42                            | 42  | 84    | 56                               | 56  | 112   | 66                            | 66  | 132   | 86                              | 86  | 172   | 250   | 250 | 500   |
| 14:00          | 18                            | 70  | 88    | 23                               | 93  | 116   | 28                            | 110 | 138   | 36                              | 143 | 179   | 105   | 416 | 521   |
| 15:00          | 5                             | 104 | 109   | 7                                | 138 | 145   | 9                             | 163 | 172   | 11                              | 211 | 222   | 32    | 616 | 648   |
| 16:00          | 5                             | 102 | 107   | 7                                | 135 | 142   | 8                             | 160 | 168   | 11                              | 206 | 217   | 31    | 603 | 634   |
| 17:00          | 9                             | 80  | 89    | 12                               | 106 | 118   | 14                            | 126 | 140   | 18                              | 162 | 180   | 53    | 474 | 527   |

**Truck Trips**

| Hour Beginning | Zone 1<br>Outer Harbor Terminal |     |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |       |       |
|----------------|---------------------------------|-----|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-------|-------|
|                | In                              | Out | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out   | Total |
| 7:00           | 87                              | 0   | 87    | 114                              | 0   | 114   | 136                           | 0   | 136   | 176                             | 0   | 176   | 513   | 0     | 513   |
| 8:00           | 136                             | 145 | 281   | 179                              | 191 | 370   | 213                           | 227 | 440   | 275                             | 293 | 568   | 803   | 856   | 1,659 |
| 9:00           | 200                             | 245 | 445   | 263                              | 323 | 586   | 313                           | 384 | 697   | 405                             | 496 | 901   | 1,181 | 1,448 | 2,629 |
| 10:00          | 164                             | 182 | 346   | 216                              | 240 | 456   | 257                           | 285 | 542   | 332                             | 368 | 700   | 969   | 1,075 | 2,044 |
| 11:00          | 207                             | 185 | 392   | 272                              | 244 | 516   | 324                           | 290 | 614   | 418                             | 375 | 793   | 1,221 | 1,094 | 2,315 |
| 12:00          | 85                              | 146 | 231   | 112                              | 192 | 304   | 134                           | 229 | 363   | 173                             | 295 | 468   | 504   | 862   | 1,366 |
| 13:00          | 203                             | 144 | 347   | 268                              | 190 | 458   | 318                           | 226 | 544   | 411                             | 292 | 703   | 1,200 | 852   | 2,052 |
| 14:00          | 156                             | 179 | 335   | 205                              | 236 | 441   | 244                           | 281 | 525   | 315                             | 363 | 678   | 920   | 1,059 | 1,979 |
| 15:00          | 111                             | 134 | 245   | 147                              | 176 | 323   | 175                           | 209 | 384   | 226                             | 270 | 496   | 659   | 789   | 1,448 |
| 16:00          | 30                              | 70  | 100   | 39                               | 93  | 132   | 46                            | 110 | 156   | 60                              | 143 | 203   | 175   | 416   | 591   |
| 17:00          | 0                               | 15  | 15    | 0                                | 19  | 19    | 0                             | 23  | 23    | 0                               | 30  | 30    | 0     | 87    | 87    |

**Passenger Car Equivalents for Trucks (1 truck = 2 passenger cars)**

| Hour Beginning | Zone 1<br>Outer Harbor Terminal |     |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |       |       |
|----------------|---------------------------------|-----|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-------|-------|
|                | In                              | Out | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out   | Total |
| 7:00           | 174                             | 0   | 174   | 228                              | 0   | 228   | 272                           | 0   | 272   | 352                             | 0   | 352   | 1,026 | 0     | 1,026 |
| 8:00           | 272                             | 290 | 562   | 358                              | 382 | 740   | 426                           | 454 | 880   | 550                             | 586 | 1,136 | 1,606 | 1,712 | 3,318 |
| 9:00           | 400                             | 490 | 890   | 526                              | 646 | 1,172 | 626                           | 768 | 1,394 | 810                             | 992 | 1,802 | 2,362 | 2,896 | 5,258 |
| 10:00          | 328                             | 364 | 692   | 432                              | 480 | 912   | 514                           | 570 | 1,084 | 664                             | 736 | 1,400 | 1,938 | 2,150 | 4,088 |
| 11:00          | 414                             | 370 | 784   | 544                              | 488 | 1,032 | 648                           | 580 | 1,228 | 836                             | 750 | 1,586 | 2,442 | 2,188 | 4,630 |
| 12:00          | 170                             | 292 | 462   | 224                              | 384 | 608   | 268                           | 458 | 726   | 346                             | 590 | 936   | 1,008 | 1,724 | 2,732 |
| 13:00          | 406                             | 288 | 694   | 536                              | 380 | 916   | 636                           | 452 | 1,088 | 822                             | 584 | 1,406 | 2,400 | 1,704 | 4,104 |
| 14:00          | 312                             | 358 | 670   | 410                              | 472 | 882   | 488                           | 562 | 1,050 | 630                             | 726 | 1,356 | 1,840 | 2,118 | 3,958 |
| 15:00          | 222                             | 268 | 490   | 294                              | 352 | 646   | 350                           | 418 | 768   | 452                             | 540 | 992   | 1,318 | 1,578 | 2,896 |
| 16:00          | 60                              | 140 | 200   | 78                               | 186 | 264   | 92                            | 220 | 312   | 120                             | 286 | 406   | 350   | 832   | 1,182 |
| 17:00          | 0                               | 30  | 30    | 0                                | 38  | 38    | 0                             | 46  | 46    | 0                               | 60  | 60    | 0     | 174   | 174   |

**Total Passenger Car Equivalents for Trucks and Autos**

| Hour Beginning | Zone 1<br>Outer Harbor Terminal |     |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |       |       | Total |       |       |
|----------------|---------------------------------|-----|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-------|-------|-------|-------|-------|
|                | In                              | Out | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out   | Total | In    | Out   | Total |
| 7:00           | 289                             | 6   | 295   | 380                              | 8   | 388   | 452                           | 9   | 461   | 584                             | 12    | 596   | 1,705 | 35    | 1,740 |
| 8:00           | 339                             | 294 | 633   | 447                              | 387 | 834   | 531                           | 460 | 991   | 686                             | 593   | 1,279 | 2,003 | 1,734 | 3,737 |
| 9:00           | 457                             | 496 | 953   | 601                              | 654 | 1,255 | 715                           | 778 | 1,493 | 926                             | 1,005 | 1,931 | 2,699 | 2,933 | 5,632 |
| 10:00          | 372                             | 393 | 765   | 490                              | 518 | 1,008 | 582                           | 616 | 1,198 | 752                             | 795   | 1,547 | 2,196 | 2,322 | 4,518 |
| 11:00          | 460                             | 416 | 876   | 605                              | 549 | 1,154 | 721                           | 653 | 1,374 | 930                             | 844   | 1,774 | 2,716 | 2,462 | 5,178 |
| 12:00          | 221                             | 343 | 564   | 291                              | 451 | 742   | 348                           | 538 | 886   | 449                             | 693   | 1,142 | 1,309 | 2,025 | 3,334 |
| 13:00          | 448                             | 330 | 778   | 592                              | 436 | 1,028 | 702                           | 518 | 1,220 | 908                             | 670   | 1,578 | 2,650 | 1,954 | 4,604 |
| 14:00          | 330                             | 428 | 758   | 433                              | 565 | 998   | 516                           | 672 | 1,188 | 666                             | 869   | 1,535 | 1,945 | 2,534 | 4,479 |
| 15:00          | 227                             | 372 | 599   | 301                              | 490 | 791   | 359                           | 581 | 940   | 463                             | 751   | 1,214 | 1,350 | 2,194 | 3,544 |
| 16:00          | 65                              | 242 | 307   | 85                               | 321 | 406   | 100                           | 380 | 480   | 131                             | 492   | 623   | 381   | 1,435 | 1,816 |
| 17:00          | 9                               | 110 | 119   | 12                               | 144 | 156   | 14                            | 172 | 186   | 18                              | 222   | 240   | 53    | 648   | 701   |

**Table J.5-5**  
**Marine Terminal Travel Characteristics**  
**Maximum Marine/Minimum Rail Alternative**

**Auto Trips**

| Hour Beginning | Zone 1              |     |       | Zone 6                 |     |       | Zone 7              |     |       | Zone 8                |     |       | Total |     |       |
|----------------|---------------------|-----|-------|------------------------|-----|-------|---------------------|-----|-------|-----------------------|-----|-------|-------|-----|-------|
|                | New Harbor Terminal |     |       | Middle Harbor Terminal |     |       | 7th Street Terminal |     |       | Outer Harbor Terminal |     |       | In    | Out | Total |
|                | In                  | Out | Total | In                     | Out | Total | In                  | Out | Total | In                    | Out | Total | In    | Out | Total |
| 7:00           | 333                 | 18  | 351   | 151                    | 8   | 159   | 180                 | 9   | 189   | 207                   | 11  | 218   | 871   | 46  | 917   |
| 8:00           | 195                 | 10  | 205   | 88                     | 5   | 93    | 105                 | 6   | 111   | 121                   | 6   | 127   | 509   | 27  | 536   |
| 9:00           | 166                 | 18  | 184   | 75                     | 8   | 83    | 89                  | 10  | 99    | 103                   | 11  | 114   | 433   | 47  | 480   |
| 10:00          | 127                 | 84  | 211   | 57                     | 38  | 95    | 68                  | 46  | 114   | 79                    | 52  | 131   | 331   | 220 | 551   |
| 11:00          | 134                 | 134 | 268   | 61                     | 61  | 122   | 73                  | 73  | 146   | 84                    | 84  | 168   | 352   | 352 | 704   |
| 12:00          | 148                 | 148 | 296   | 67                     | 67  | 134   | 80                  | 80  | 160   | 92                    | 92  | 184   | 387   | 387 | 774   |
| 13:00          | 123                 | 123 | 246   | 56                     | 56  | 112   | 66                  | 66  | 132   | 76                    | 76  | 152   | 321   | 321 | 642   |
| 14:00          | 51                  | 204 | 255   | 23                     | 93  | 116   | 28                  | 110 | 138   | 32                    | 127 | 159   | 134   | 534 | 668   |
| 15:00          | 16                  | 303 | 319   | 7                      | 137 | 144   | 9                   | 163 | 172   | 10                    | 188 | 198   | 42    | 791 | 833   |
| 16:00          | 16                  | 296 | 312   | 7                      | 134 | 141   | 8                   | 160 | 168   | 10                    | 184 | 194   | 41    | 774 | 815   |
| 17:00          | 26                  | 232 | 258   | 12                     | 106 | 118   | 14                  | 126 | 140   | 16                    | 145 | 161   | 68    | 609 | 677   |

**Truck Trips**

| Hour Beginning | Zone 1                |     |       | Zone 6                 |     |       | Zone 7              |     |       | Zone 8                |     |       | Total |       |       |
|----------------|-----------------------|-----|-------|------------------------|-----|-------|---------------------|-----|-------|-----------------------|-----|-------|-------|-------|-------|
|                | Outer Harbor Terminal |     |       | Middle Harbor Terminal |     |       | 7th Street Terminal |     |       | Outer Harbor Terminal |     |       | In    | Out   | Total |
|                | In                    | Out | Total | In                     | Out | Total | In                  | Out | Total | In                    | Out | Total | In    | Out   | Total |
| 7:00           | 259                   | 0   | 259   | 118                    | 0   | 118   | 140                 | 0   | 140   | 161                   | 0   | 161   | 678   | 0     | 678   |
| 8:00           | 406                   | 432 | 838   | 184                    | 196 | 380   | 219                 | 233 | 452   | 252                   | 269 | 521   | 1,061 | 1,130 | 2,191 |
| 9:00           | 596                   | 730 | 1,326 | 271                    | 332 | 603   | 322                 | 394 | 716   | 371                   | 454 | 825   | 1,560 | 1,910 | 3,470 |
| 10:00          | 489                   | 542 | 1,031 | 222                    | 246 | 468   | 264                 | 293 | 557   | 304                   | 337 | 641   | 1,279 | 1,418 | 2,697 |
| 11:00          | 616                   | 552 | 1,168 | 280                    | 251 | 531   | 333                 | 298 | 631   | 383                   | 343 | 726   | 1,612 | 1,444 | 3,056 |
| 12:00          | 254                   | 435 | 689   | 115                    | 197 | 312   | 137                 | 235 | 372   | 158                   | 270 | 428   | 664   | 1,137 | 1,801 |
| 13:00          | 606                   | 430 | 1,036 | 275                    | 195 | 470   | 327                 | 232 | 559   | 377                   | 267 | 644   | 1,585 | 1,124 | 2,709 |
| 14:00          | 464                   | 535 | 999   | 211                    | 243 | 454   | 251                 | 289 | 540   | 289                   | 333 | 622   | 1,215 | 1,400 | 2,615 |
| 15:00          | 332                   | 398 | 730   | 151                    | 181 | 332   | 179                 | 215 | 394   | 207                   | 248 | 455   | 869   | 1,042 | 1,911 |
| 16:00          | 88                    | 210 | 298   | 40                     | 95  | 135   | 48                  | 113 | 161   | 55                    | 131 | 186   | 231   | 549   | 780   |
| 17:00          | 0                     | 44  | 44    | 0                      | 20  | 20    | 0                   | 24  | 24    | 0                     | 27  | 27    | 0     | 115   | 115   |

**Passenger Car Equivalents for Trucks (1 truck = 2 passenger cars)**

| Hour Beginning | Zone 1                |       |       | Zone 6                 |     |       | Zone 7              |     |       | Zone 8                |     |       | Total |       |       |
|----------------|-----------------------|-------|-------|------------------------|-----|-------|---------------------|-----|-------|-----------------------|-----|-------|-------|-------|-------|
|                | Outer Harbor Terminal |       |       | Middle Harbor Terminal |     |       | 7th Street Terminal |     |       | Outer Harbor Terminal |     |       | In    | Out   | Total |
|                | In                    | Out   | Total | In                     | Out | Total | In                  | Out | Total | In                    | Out | Total | In    | Out   | Total |
| 7:00           | 518                   | 0     | 518   | 236                    | 0   | 236   | 280                 | 0   | 280   | 322                   | 0   | 322   | 1,356 | 0     | 1,356 |
| 8:00           | 812                   | 864   | 1,676 | 368                    | 392 | 760   | 438                 | 466 | 904   | 504                   | 538 | 1,042 | 2,122 | 2,260 | 4,382 |
| 9:00           | 1,192                 | 1,460 | 2,652 | 542                    | 664 | 1,206 | 644                 | 788 | 1,432 | 742                   | 908 | 1,650 | 3,120 | 3,820 | 6,940 |
| 10:00          | 978                   | 1,084 | 2,062 | 444                    | 492 | 936   | 528                 | 586 | 1,114 | 608                   | 674 | 1,282 | 2,558 | 2,836 | 5,394 |
| 11:00          | 1,232                 | 1,104 | 2,336 | 560                    | 502 | 1,062 | 666                 | 596 | 1,262 | 766                   | 686 | 1,452 | 3,224 | 2,888 | 6,112 |
| 12:00          | 508                   | 870   | 1,378 | 230                    | 394 | 624   | 274                 | 470 | 744   | 316                   | 540 | 856   | 1,328 | 2,274 | 3,602 |
| 13:00          | 1,212                 | 860   | 2,072 | 550                    | 390 | 940   | 654                 | 464 | 1,118 | 754                   | 534 | 1,288 | 3,170 | 2,248 | 5,418 |
| 14:00          | 928                   | 1,070 | 1,998 | 422                    | 486 | 908   | 502                 | 578 | 1,080 | 578                   | 666 | 1,244 | 2,430 | 2,800 | 5,230 |
| 15:00          | 664                   | 796   | 1,460 | 302                    | 362 | 664   | 358                 | 430 | 788   | 414                   | 496 | 910   | 1,738 | 2,084 | 3,822 |
| 16:00          | 176                   | 420   | 596   | 80                     | 190 | 270   | 96                  | 226 | 322   | 110                   | 262 | 372   | 462   | 1,098 | 1,560 |
| 17:00          | 0                     | 88    | 88    | 0                      | 40  | 40    | 0                   | 48  | 48    | 0                     | 54  | 54    | 0     | 230   | 230   |

**Total Passenger Car Equivalents for Trucks and Autos**

| Hour Beginning | Zone 1                |       |       | Zone 6                 |     |       | Zone 7              |     |       | Zone 8                |     |       | Total |       |       |
|----------------|-----------------------|-------|-------|------------------------|-----|-------|---------------------|-----|-------|-----------------------|-----|-------|-------|-------|-------|
|                | Outer Harbor Terminal |       |       | Middle Harbor Terminal |     |       | 7th Street Terminal |     |       | Outer Harbor Terminal |     |       | In    | Out   | Total |
|                | In                    | Out   | Total | In                     | Out | Total | In                  | Out | Total | In                    | Out | Total | In    | Out   | Total |
| 7:00           | 851                   | 18    | 869   | 387                    | 8   | 395   | 460                 | 9   | 469   | 529                   | 11  | 540   | 2,227 | 46    | 2,273 |
| 8:00           | 1,007                 | 874   | 1,881 | 456                    | 397 | 853   | 543                 | 472 | 1,015 | 625                   | 544 | 1,169 | 2,631 | 2,287 | 4,918 |
| 9:00           | 1,358                 | 1,478 | 2,836 | 617                    | 672 | 1,289 | 733                 | 798 | 1,531 | 845                   | 919 | 1,764 | 3,553 | 3,867 | 7,420 |
| 10:00          | 1,105                 | 1,168 | 2,273 | 501                    | 530 | 1,031 | 596                 | 632 | 1,228 | 687                   | 726 | 1,413 | 2,889 | 3,056 | 5,945 |
| 11:00          | 1,366                 | 1,238 | 2,604 | 621                    | 563 | 1,184 | 739                 | 669 | 1,408 | 850                   | 770 | 1,620 | 3,576 | 3,240 | 6,816 |
| 12:00          | 656                   | 1,018 | 1,674 | 297                    | 461 | 758   | 354                 | 550 | 904   | 408                   | 632 | 1,040 | 1,715 | 2,661 | 4,376 |
| 13:00          | 1,335                 | 983   | 2,318 | 606                    | 446 | 1,052 | 720                 | 530 | 1,250 | 830                   | 610 | 1,440 | 3,491 | 2,569 | 6,060 |
| 14:00          | 979                   | 1,274 | 2,253 | 445                    | 579 | 1,024 | 530                 | 688 | 1,218 | 610                   | 793 | 1,403 | 2,564 | 3,334 | 5,898 |
| 15:00          | 680                   | 1,099 | 1,779 | 309                    | 499 | 808   | 367                 | 593 | 960   | 424                   | 684 | 1,108 | 1,780 | 2,875 | 4,655 |
| 16:00          | 192                   | 716   | 908   | 87                     | 324 | 411   | 104                 | 386 | 490   | 120                   | 446 | 566   | 503   | 1,872 | 2,375 |
| 17:00          | 26                    | 320   | 346   | 12                     | 146 | 158   | 14                  | 174 | 188   | 16                    | 199 | 215   | 68    | 839   | 907   |



**Table J.5-6**  
**Marine Terminal Travel Characteristics**  
**Reduced Harbor Fill Alternative**

**Auto Trips**

| Hour Beginning | Zone 1<br>New Harbor Terminal |     |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |     |       |
|----------------|-------------------------------|-----|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-----|-------|
|                | In                            | Out | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out | Total |
| 7:00           | 319                           | 17  | 336   | 151                              | 8   | 159   | 180                           | 9   | 189   | 207                             | 11  | 218   | 857   | 45  | 902   |
| 8:00           | 187                           | 10  | 197   | 88                               | 5   | 93    | 105                           | 6   | 111   | 121                             | 6   | 127   | 501   | 27  | 528   |
| 9:00           | 159                           | 18  | 177   | 75                               | 8   | 83    | 89                            | 10  | 99    | 103                             | 11  | 114   | 426   | 47  | 473   |
| 10:00          | 121                           | 81  | 202   | 57                               | 38  | 95    | 68                            | 46  | 114   | 79                              | 52  | 131   | 325   | 217 | 542   |
| 11:00          | 129                           | 129 | 258   | 61                               | 61  | 122   | 73                            | 73  | 146   | 84                              | 84  | 168   | 347   | 347 | 694   |
| 12:00          | 142                           | 142 | 284   | 67                               | 67  | 134   | 80                            | 80  | 160   | 92                              | 92  | 184   | 381   | 381 | 762   |
| 13:00          | 118                           | 118 | 236   | 56                               | 56  | 112   | 66                            | 66  | 132   | 76                              | 76  | 152   | 316   | 316 | 632   |
| 14:00          | 49                            | 196 | 245   | 23                               | 93  | 116   | 28                            | 110 | 138   | 32                              | 127 | 159   | 132   | 526 | 658   |
| 15:00          | 15                            | 290 | 305   | 7                                | 137 | 144   | 9                             | 163 | 172   | 10                              | 188 | 198   | 41    | 778 | 819   |
| 16:00          | 15                            | 284 | 299   | 7                                | 134 | 141   | 8                             | 160 | 168   | 10                              | 184 | 194   | 40    | 762 | 802   |
| 17:00          | 25                            | 223 | 248   | 12                               | 106 | 118   | 14                            | 126 | 140   | 16                              | 145 | 161   | 67    | 600 | 667   |

**Truck Trips**

| Hour Beginning | Zone 1<br>Outer Harbor Terminal |     |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |       |       |
|----------------|---------------------------------|-----|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-------|-------|
|                | In                              | Out | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out   | Total |
| 7:00           | 248                             | 0   | 248   | 117                              | 0   | 117   | 140                           | 0   | 140   | 161                             | 0   | 161   | 666   | 0     | 666   |
| 8:00           | 388                             | 413 | 801   | 184                              | 196 | 380   | 219                           | 233 | 452   | 252                             | 268 | 520   | 1,043 | 1,110 | 2,153 |
| 9:00           | 571                             | 699 | 1,270 | 270                              | 331 | 601   | 322                           | 394 | 716   | 370                             | 453 | 823   | 1,533 | 1,877 | 3,410 |
| 10:00          | 468                             | 519 | 987   | 222                              | 246 | 468   | 264                           | 293 | 557   | 303                             | 337 | 640   | 1,257 | 1,395 | 2,652 |
| 11:00          | 589                             | 528 | 1,117 | 279                              | 250 | 529   | 332                           | 298 | 630   | 382                             | 343 | 725   | 1,582 | 1,419 | 3,001 |
| 12:00          | 243                             | 416 | 659   | 115                              | 197 | 312   | 137                           | 235 | 372   | 158                             | 270 | 428   | 653   | 1,118 | 1,771 |
| 13:00          | 580                             | 412 | 992   | 275                              | 195 | 470   | 327                           | 232 | 559   | 376                             | 267 | 643   | 1,558 | 1,106 | 2,664 |
| 14:00          | 444                             | 512 | 956   | 210                              | 243 | 453   | 250                           | 289 | 539   | 288                             | 332 | 620   | 1,192 | 1,376 | 2,568 |
| 15:00          | 318                             | 381 | 699   | 151                              | 181 | 332   | 179                           | 215 | 394   | 206                             | 247 | 453   | 854   | 1,024 | 1,878 |
| 16:00          | 84                              | 201 | 285   | 40                               | 95  | 135   | 47                            | 113 | 160   | 55                              | 130 | 185   | 226   | 539   | 765   |
| 17:00          | 0                               | 42  | 42    | 0                                | 20  | 20    | 0                             | 24  | 24    | 0                               | 27  | 27    | 0     | 113   | 113   |

**Passenger Car Equivalents for Trucks (1 truck = 2 passenger cars)**

| Hour Beginning | Zone 1<br>Outer Harbor Terminal |       |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |       |       |
|----------------|---------------------------------|-------|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-------|-------|
|                | In                              | Out   | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out   | Total |
| 7:00           | 496                             | 0     | 496   | 234                              | 0   | 234   | 280                           | 0   | 280   | 322                             | 0   | 322   | 1,332 | 0     | 1,332 |
| 8:00           | 776                             | 826   | 1,602 | 368                              | 392 | 760   | 438                           | 466 | 904   | 504                             | 536 | 1,040 | 2,086 | 2,220 | 4,306 |
| 9:00           | 1,142                           | 1,398 | 2,540 | 540                              | 662 | 1,202 | 644                           | 788 | 1,432 | 740                             | 906 | 1,646 | 3,066 | 3,754 | 6,820 |
| 10:00          | 936                             | 1,038 | 1,974 | 444                              | 492 | 936   | 528                           | 586 | 1,114 | 606                             | 674 | 1,280 | 2,514 | 2,790 | 5,304 |
| 11:00          | 1,178                           | 1,056 | 2,234 | 558                              | 500 | 1,058 | 664                           | 596 | 1,260 | 764                             | 686 | 1,450 | 3,164 | 2,838 | 6,002 |
| 12:00          | 486                             | 832   | 1,318 | 230                              | 394 | 624   | 274                           | 470 | 744   | 316                             | 540 | 856   | 1,306 | 2,236 | 3,542 |
| 13:00          | 1,160                           | 824   | 1,984 | 550                              | 390 | 940   | 654                           | 464 | 1,118 | 752                             | 534 | 1,286 | 3,116 | 2,212 | 5,328 |
| 14:00          | 888                             | 1,024 | 1,912 | 420                              | 486 | 906   | 500                           | 578 | 1,078 | 576                             | 664 | 1,240 | 2,384 | 2,752 | 5,136 |
| 15:00          | 636                             | 762   | 1,398 | 302                              | 362 | 664   | 358                           | 430 | 788   | 412                             | 494 | 906   | 1,708 | 2,048 | 3,756 |
| 16:00          | 168                             | 402   | 570   | 80                               | 190 | 270   | 94                            | 226 | 320   | 110                             | 260 | 370   | 452   | 1,078 | 1,530 |
| 17:00          | 0                               | 84    | 84    | 0                                | 40  | 40    | 0                             | 48  | 48    | 0                               | 54  | 54    | 0     | 226   | 226   |

**Total Passenger Car Equivalents for Trucks and Autos**

| Hour Beginning | Zone 1<br>Outer Harbor Terminal |       |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |       |       |
|----------------|---------------------------------|-------|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-------|-------|
|                | In                              | Out   | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out   | Total |
| 7:00           | 815                             | 17    | 832   | 385                              | 8   | 393   | 460                           | 9   | 469   | 529                             | 11  | 540   | 2,189 | 45    | 2,234 |
| 8:00           | 963                             | 836   | 1,799 | 456                              | 397 | 853   | 543                           | 472 | 1,015 | 625                             | 542 | 1,167 | 2,587 | 2,247 | 4,834 |
| 9:00           | 1,301                           | 1,416 | 2,717 | 615                              | 670 | 1,285 | 733                           | 798 | 1,531 | 843                             | 917 | 1,760 | 3,492 | 3,801 | 7,293 |
| 10:00          | 1,057                           | 1,119 | 2,176 | 501                              | 530 | 1,031 | 596                           | 632 | 1,228 | 685                             | 726 | 1,411 | 2,839 | 3,007 | 5,846 |
| 11:00          | 1,307                           | 1,185 | 2,492 | 619                              | 561 | 1,180 | 737                           | 669 | 1,406 | 848                             | 770 | 1,618 | 3,511 | 3,185 | 6,696 |
| 12:00          | 628                             | 974   | 1,602 | 297                              | 461 | 758   | 354                           | 550 | 904   | 408                             | 632 | 1,040 | 1,687 | 2,617 | 4,304 |
| 13:00          | 1,278                           | 942   | 2,220 | 606                              | 446 | 1,052 | 720                           | 530 | 1,250 | 828                             | 610 | 1,438 | 3,432 | 2,528 | 5,960 |
| 14:00          | 937                             | 1,220 | 2,157 | 443                              | 579 | 1,022 | 528                           | 688 | 1,216 | 608                             | 791 | 1,399 | 2,516 | 3,278 | 5,794 |
| 15:00          | 651                             | 1,052 | 1,703 | 309                              | 499 | 808   | 367                           | 593 | 960   | 422                             | 682 | 1,104 | 1,749 | 2,826 | 4,575 |
| 16:00          | 183                             | 686   | 869   | 87                               | 324 | 411   | 102                           | 386 | 488   | 120                             | 444 | 564   | 492   | 1,840 | 2,332 |
| 17:00          | 25                              | 307   | 332   | 12                               | 146 | 158   | 14                            | 174 | 188   | 16                              | 199 | 215   | 67    | 826   | 893   |

**Table J.5-7  
Marine Terminal Travel Characteristics**

**Auto Traffic**

|  | Zone 1<br>New Harbor Terminal |     |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |     |       |
|--|-------------------------------|-----|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-----|-------|
|  | In                            | Out | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out | Total |
| <b>Existing Conditions</b>                     |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| AM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| Traffic Volume                                 |                               |     |       | 62                               | 3   | 65    | 73                            | 4   | 77    | 85                              | 4   | 89    | 220   | 11  | 231   |
| Splits (In - Out)                              |                               |     |       | 95%                              | 5%  |       | 95%                           | 5%  |       | 96%                             | 4%  |       | 95%   | 5%  |       |
| Percent of Marine Traffic                      |                               |     |       |                                  |     | 28%   |                               |     | 33%   |                                 |     | 39%   |       |     | 100%  |
| PM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| Traffic Volume                                 |                               |     |       | 5                                | 96  | 101   | 6                             | 114 | 120   | 7                               | 131 | 138   | 18    | 341 | 359   |
| Splits (In - Out)                              |                               |     |       | 5%                               | 95% |       | 5%                            | 95% |       | 5%                              | 95% |       | 5%    | 95% |       |
| Percent of Marine Traffic                      |                               |     |       |                                  |     | 28%   |                               |     | 33%   |                                 |     | 38%   |       |     | 100%  |
| <b>No Project Alternative</b>                  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| AM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| Traffic Volume                                 |                               |     |       | 88                               | 5   | 93    | 105                           | 6   | 111   | 121                             | 6   | 127   | 314   | 17  | 331   |
| Splits (In - Out)                              |                               |     |       | 95%                              | 5%  |       | 95%                           | 5%  |       | 95%                             | 5%  |       | 95%   | 5%  |       |
| Percent of Marine Traffic                      |                               |     |       |                                  |     | 28%   |                               |     | 34%   |                                 |     | 38%   |       |     | 100%  |
| PM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| Traffic Volume                                 |                               |     |       | 7                                | 137 | 144   | 9                             | 163 | 172   | 10                              | 188 | 198   | 26    | 488 | 514   |
| Splits (In - Out)                              |                               |     |       | 5%                               | 95% |       | 5%                            | 95% |       | 5%                              | 95% |       | 5%    | 95% |       |
| Percent of Marine Traffic                      |                               |     |       |                                  |     | 28%   |                               |     | 33%   |                                 |     | 39%   |       |     | 100%  |
| <b>Maximum Marine/Maximum Rail Alternative</b> |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| AM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| Traffic Volume                                 | 175                           | 9   | 184   | 88                               | 5   | 93    | 105                           | 6   | 111   | 121                             | 6   | 127   | 489   | 26  | 515   |
| Splits (In - Out)                              | 95%                           | 5%  |       | 95%                              | 5%  |       | 95%                           | 5%  |       | 95%                             | 5%  |       | 95%   | 5%  |       |
| Percent of Marine Traffic                      |                               |     | 36%   |                                  |     | 18%   |                               |     | 22%   |                                 |     | 25%   |       |     | 100%  |
| PM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| Traffic Volume                                 | 14                            | 271 | 285   | 7                                | 137 | 144   | 9                             | 163 | 172   | 10                              | 188 | 198   | 40    | 759 | 799   |
| Splits (In - Out)                              | 5%                            | 95% |       | 5%                               | 95% |       | 5%                            | 95% |       | 5%                              | 95% |       | 5%    | 95% |       |
| Percent of Marine Traffic                      |                               |     | 36%   |                                  |     | 18%   |                               |     | 22%   |                                 |     | 25%   |       |     | 100%  |
| <b>Minimum Marine/Minimum Rail Alternative</b> |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| AM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| Traffic Volume                                 | 67                            | 4   | 71    | 89                               | 5   | 94    | 105                           | 6   | 111   | 136                             | 7   | 143   | 397   | 22  | 419   |
| Splits (In - Out)                              | 94%                           | 6%  |       | 95%                              | 5%  |       | 95%                           | 5%  |       | 95%                             | 5%  |       | 95%   | 5%  |       |
| Percent of Marine Traffic                      |                               |     | 17%   |                                  |     | 22%   |                               |     | 26%   |                                 |     | 34%   |       |     | 100%  |
| PM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| Traffic Volume                                 | 5                             | 104 | 109   | 7                                | 138 | 145   | 9                             | 163 | 172   | 11                              | 211 | 222   | 32    | 616 | 648   |
| Splits (In - Out)                              | 5%                            | 95% |       | 5%                               | 95% |       | 5%                            | 95% |       | 5%                              | 95% |       | 5%    | 95% |       |
| Percent of Marine Traffic                      |                               |     | 17%   |                                  |     | 22%   |                               |     | 27%   |                                 |     | 34%   |       |     | 100%  |
| <b>Maximum Marine/Minimum Rail Alternative</b> |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| AM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| Traffic Volume                                 | 195                           | 10  | 205   | 88                               | 5   | 93    | 105                           | 6   | 111   | 121                             | 6   | 127   | 509   | 27  | 536   |
| Splits (In - Out)                              | 95%                           | 5%  |       | 95%                              | 5%  |       | 95%                           | 5%  |       | 95%                             | 5%  |       | 95%   | 5%  |       |
| Percent of Marine Traffic                      |                               |     | 38%   |                                  |     | 17%   |                               |     | 21%   |                                 |     | 24%   |       |     | 100%  |
| PM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| Traffic Volume                                 | 16                            | 303 | 319   | 7                                | 137 | 144   | 9                             | 163 | 172   | 10                              | 188 | 198   | 42    | 791 | 833   |
| Splits (In - Out)                              | 5%                            | 95% |       | 5%                               | 95% |       | 5%                            | 95% |       | 5%                              | 95% |       | 5%    | 95% |       |
| Percent of Marine Traffic                      |                               |     | 38%   |                                  |     | 17%   |                               |     | 21%   |                                 |     | 24%   |       |     | 100%  |
| <b>Reduced Harbor Fill Alternative</b>         |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| AM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| Traffic Volume                                 | 187                           | 10  | 197   | 88                               | 5   | 93    | 105                           | 6   | 111   | 121                             | 6   | 127   | 501   | 27  | 528   |
| Splits (In - Out)                              | 95%                           | 5%  |       | 95%                              | 5%  |       | 95%                           | 5%  |       | 95%                             | 5%  |       | 95%   | 5%  |       |
| Percent of Marine Traffic                      |                               |     | 37%   |                                  |     | 18%   |                               |     | 21%   |                                 |     | 24%   |       |     | 100%  |
| PM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |     |       |
| Traffic Volume                                 | 15                            | 290 | 305   | 7                                | 137 | 144   | 9                             | 163 | 172   | 10                              | 188 | 198   | 41    | 778 | 819   |
| Splits (In - Out)                              | 5%                            | 95% |       | 5%                               | 95% |       | 5%                            | 95% |       | 5%                              | 95% |       | 5%    | 95% |       |
| Percent of Marine Traffic                      |                               |     | 37%   |                                  |     | 18%   |                               |     | 21%   |                                 |     | 24%   |       |     | 100%  |



**Table J.5-8  
Marine Terminal Travel Characteristics**

**Truck Traffic (In passenger car equivalents: 1 truck = 2 cars)**

|  | Zone 1<br>New Harbor Terminal |     |       | Zone 6<br>Middle Harbor Terminal |     |       | Zone 7<br>7th Street Terminal |     |       | Zone 8<br>Outer Harbor Terminal |     |       | Total |       |       |
|--|-------------------------------|-----|-------|----------------------------------|-----|-------|-------------------------------|-----|-------|---------------------------------|-----|-------|-------|-------|-------|
|  | In                            | Out | Total | In                               | Out | Total | In                            | Out | Total | In                              | Out | Total | In    | Out   | Total |
|  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| <b>Existing Conditions</b>                     |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| AM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| Traffic Volume                                 |                               |     |       | 280                              | 298 | 578   | 294                           | 312 | 606   | 352                             | 376 | 728   | 926   | 986   | 1,912 |
| Splits (In - Out)                              |                               |     |       | 48%                              | 52% |       | 49%                           | 51% |       | 48%                             | 52% |       | 48%   | 52%   |       |
| Percent of Marine Traffic                      |                               |     |       |                                  |     | 30%   |                               |     | 32%   |                                 |     | 38%   |       |       | 100%  |
| PM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| Traffic Volume                                 |                               |     |       | 230                              | 276 | 506   | 240                           | 288 | 528   | 288                             | 346 | 634   | 758   | 910   | 1,668 |
| Splits (In - Out)                              |                               |     |       | 45%                              | 55% |       | 45%                           | 55% |       | 45%                             | 55% |       | 45%   | 55%   |       |
| Percent of Marine Traffic                      |                               |     |       |                                  |     | 30%   |                               |     | 32%   |                                 |     | 38%   |       |       | 100%  |
| <b>No Project Alternative</b>                  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| AM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| Traffic Volume                                 |                               |     |       | 354                              | 376 | 730   | 420                           | 448 | 868   | 484                             | 514 | 998   | 1,258 | 1,338 | 2,596 |
| Splits (In - Out)                              |                               |     |       | 48%                              | 52% |       | 48%                           | 52% |       | 48%                             | 52% |       | 48%   | 52%   |       |
| Percent of Marine Traffic                      |                               |     |       |                                  |     | 28%   |                               |     | 33%   |                                 |     | 38%   |       |       | 100%  |
| PM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| Traffic Volume                                 |                               |     |       | 290                              | 346 | 636   | 344                           | 412 | 756   | 396                             | 474 | 870   | 1,030 | 1,232 | 2,262 |
| Splits (In - Out)                              |                               |     |       | 46%                              | 54% |       | 46%                           | 54% |       | 46%                             | 54% |       | 46%   | 54%   |       |
| Percent of Marine Traffic                      |                               |     |       |                                  |     | 28%   |                               |     | 33%   |                                 |     | 38%   |       |       | 100%  |
| <b>Maximum Marine/Maximum Rail Alternative</b> |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| AM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| Traffic Volume                                 | 724                           | 772 | 1,496 | 366                              | 390 | 756   | 436                           | 464 | 900   | 502                             | 536 | 1,038 | 2,028 | 2,162 | 4,190 |
| Splits (In - Out)                              | 48%                           | 52% |       | 48%                              | 52% |       | 48%                           | 52% |       | 48%                             | 52% |       | 48%   | 52%   |       |
| Percent of Marine Traffic                      |                               |     | 36%   |                                  |     | 18%   |                               |     | 21%   |                                 |     | 25%   |       |       | 100%  |
| PM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| Traffic Volume                                 | 594                           | 712 | 1,306 | 300                              | 360 | 660   | 358                           | 428 | 786   | 412                             | 494 | 906   | 1,664 | 1,994 | 3,658 |
| Splits (In - Out)                              | 45%                           | 55% |       | 45%                              | 55% |       | 46%                           | 54% |       | 45%                             | 55% |       | 45%   | 55%   |       |
| Percent of Marine Traffic                      |                               |     | 36%   |                                  |     | 18%   |                               |     | 21%   |                                 |     | 25%   |       |       | 100%  |
| <b>Minimum Marine/Minimum Rail Alternative</b> |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| AM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| Traffic Volume                                 | 272                           | 290 | 562   | 358                              | 382 | 740   | 426                           | 454 | 880   | 550                             | 586 | 1,136 | 1,606 | 1,712 | 3,318 |
| Splits (In - Out)                              | 48%                           | 52% |       | 48%                              | 52% |       | 48%                           | 52% |       | 48%                             | 52% |       | 48%   | 52%   |       |
| Percent of Marine Traffic                      |                               |     | 17%   |                                  |     | 22%   |                               |     | 27%   |                                 |     | 34%   |       |       | 100%  |
| PM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| Traffic Volume                                 | 222                           | 268 | 490   | 294                              | 352 | 646   | 350                           | 418 | 768   | 452                             | 540 | 992   | 1,318 | 1,578 | 2,896 |
| Splits (In - Out)                              | 45%                           | 55% |       | 46%                              | 54% |       | 46%                           | 54% |       | 46%                             | 54% |       | 46%   | 54%   |       |
| Percent of Marine Traffic                      |                               |     | 17%   |                                  |     | 22%   |                               |     | 27%   |                                 |     | 34%   |       |       | 100%  |
| <b>Maximum Marine/Minimum Rail Alternative</b> |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| AM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| Traffic Volume                                 | 812                           | 864 | 1,676 | 368                              | 392 | 760   | 438                           | 466 | 904   | 504                             | 538 | 1,042 | 2,122 | 2,260 | 4,382 |
| Splits (In - Out)                              | 48%                           | 52% |       | 48%                              | 52% |       | 48%                           | 52% |       | 48%                             | 52% |       | 48%   | 52%   |       |
| Percent of Marine Traffic                      |                               |     | 38%   |                                  |     | 17%   |                               |     | 21%   |                                 |     | 24%   |       |       | 100%  |
| PM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| Traffic Volume                                 | 664                           | 796 | 1,460 | 302                              | 362 | 664   | 358                           | 430 | 788   | 414                             | 496 | 910   | 1,738 | 2,084 | 3,822 |
| Splits (In - Out)                              | 45%                           | 55% |       | 45%                              | 55% |       | 45%                           | 55% |       | 45%                             | 55% |       | 45%   | 55%   |       |
| Percent of Marine Traffic                      |                               |     | 38%   |                                  |     | 17%   |                               |     | 21%   |                                 |     | 24%   |       |       | 100%  |
| <b>Reduced Harbor Fill Alternative</b>         |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| AM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| Traffic Volume                                 | 776                           | 826 | 1,602 | 368                              | 392 | 760   | 438                           | 466 | 904   | 504                             | 536 | 1,040 | 2,086 | 2,220 | 4,306 |
| Splits (In - Out)                              | 48%                           | 52% |       | 48%                              | 52% |       | 48%                           | 52% |       | 48%                             | 52% |       | 48%   | 52%   |       |
| Percent of Marine Traffic                      |                               |     | 37%   |                                  |     | 18%   |                               |     | 21%   |                                 |     | 24%   |       |       | 100%  |
| PM Peak  |                               |     |       |                                  |     |       |                               |     |       |                                 |     |       |       |       |       |
| Traffic Volume                                 | 636                           | 762 | 1,398 | 302                              | 362 | 664   | 358                           | 430 | 788   | 412                             | 494 | 906   | 1,708 | 2,048 | 3,756 |
| Splits (In - Out)                              | 45%                           | 55% |       | 45%                              | 55% |       | 45%                           | 55% |       | 45%                             | 55% |       | 45%   | 55%   |       |
| Percent of Marine Traffic                      |                               |     | 37%   |                                  |     | 18%   |                               |     | 21%   |                                 |     | 24%   |       |       | 100%  |

**Appendix J.6**  
**Peak Hour Project Trip Generation**



**Table J.6-1**  
**FISCO/Port Vision 2000 EIS/EIR**  
**AM Peak Hour Truck Trip Generation**  
**(in passenger car equivalents: 1 truck = 2 cars)**

**Existing Conditions**

| Zone | Intermodal |       | Over-the-Road Trips | Total Trips |
|------|------------|-------|---------------------|-------------|
|      | %          | Trips |                     |             |
| 1    |            |       |                     |             |
| 2    |            |       |                     |             |
| 3    |            |       |                     |             |
| 4    | 74%        | 238   | 84                  | 322         |
| 5    | 74%        | 153   | 54                  | 208         |
| 6    | 22%        | 129   | 449                 | 578         |
| 7    | 22%        | 135   | 471                 | 606         |
| 8    | 22%        | 163   | 565                 | 728         |
| 9    |            |       |                     |             |
| 10   |            |       |                     |             |
| 11   |            | 36    |                     |             |

**No Project Alternative**

| Zone | Intermodal |       | Over-the-Road Trips | Total Trips |
|------|------------|-------|---------------------|-------------|
|      | %          | Trips |                     |             |
| 1    |            |       |                     |             |
| 2    |            |       |                     |             |
| 3    |            |       |                     |             |
| 4    | 15%        | 92    | 536                 | 629         |
| 5    | 15%        | 50    | 290                 | 340         |
| 6    | 6%         | 42    | 688                 | 730         |
| 7    | 6%         | 50    | 818                 | 868         |
| 8    | 6%         | 57    | 941                 | 998         |
| 9    |            |       |                     |             |
| 10   |            |       |                     |             |
| 11   |            | 6     |                     |             |

**Maximum Marine/Maximum Rail Alternative**

| Zone | Intermodal |       | Over-the-Road Trips | Total Trips |
|------|------------|-------|---------------------|-------------|
|      | %          | Trips |                     |             |
| 1    | 34%        | 512   | 984                 | 1,496       |
| 2    |            |       |                     |             |
| 3    | 62%        | 1,433 | 890                 | 2,323       |
| 4    |            |       |                     |             |
| 5    |            |       |                     |             |
| 6    | 34%        | 259   | 497                 | 756         |
| 7    | 34%        | 308   | 592                 | 900         |
| 8    | 34%        | 355   | 683                 | 1,038       |
| 9    |            |       |                     |             |
| 10   |            |       |                     |             |
| 11   |            |       |                     |             |

**Minimum Marine/Minimum Rail Alternative**

| Zone | Intermodal |       | Over-the-Road Trips | Total Trips |
|------|------------|-------|---------------------|-------------|
|      | %          | Trips |                     |             |
| 1    | 17%        | 95    | 467                 | 562         |
| 2    |            |       |                     |             |
| 3    | 39%        | 256   | 406                 | 662         |
| 4    | 39%        | 228   | 361                 | 589         |
| 5    | 39%        | 77    | 122                 | 199         |
| 6    | 17%        | 125   | 615                 | 740         |
| 7    | 17%        | 149   | 731                 | 880         |
| 8    | 17%        | 192   | 944                 | 1,136       |
| 9    |            |       |                     |             |
| 10   |            |       |                     |             |
| 11   |            |       |                     |             |

**Maximum Marine/Minimum Rail Alternative**

| Zone | Intermodal |       | Over-the-Road Trips | Total Trips |
|------|------------|-------|---------------------|-------------|
|      | %          | Trips |                     |             |
| 1    | 37%        | 621   | 1,055               | 1,676       |
| 2    |            |       |                     |             |
| 3    | 65%        | 805   | 442                 | 1,247       |
| 4    | 65%        | 817   | 448                 | 1,266       |
| 5    |            |       |                     |             |
| 6    | 37%        | 281   | 479                 | 760         |
| 7    | 37%        | 335   | 569                 | 904         |
| 8    | 37%        | 386   | 656                 | 1,042       |
| 9    |            |       |                     |             |
| 10   |            |       |                     |             |
| 11   |            |       |                     |             |

**Reduced Harbor Fill Alternative**

| Zone | Intermodal |       | Over-the-Road Trips | Total Trips |
|------|------------|-------|---------------------|-------------|
|      | %          | Trips |                     |             |
| 1    | 36%        | 576   | 1,026               | 1,602       |
| 2    |            |       |                     |             |
| 3    | 64%        | 1,549 | 890                 | 2,439       |
| 4    |            |       |                     |             |
| 5    |            |       |                     |             |
| 6    | 36%        | 273   | 487                 | 760         |
| 7    | 36%        | 325   | 579                 | 904         |
| 8    | 36%        | 374   | 666                 | 1,040       |
| 9    |            |       |                     |             |
| 10   |            |       |                     |             |
| 11   |            |       |                     |             |



**Table J.6-2**  
**FISCO/Port Vision 2000 EIS/EIR**  
**PM Peak Hour Truck Trip Generation**  
(in passenger car equivalents: 1 truck = 2 cars)

**Existing Conditions**

| Zone | Intermodal |       | Over-the-Road Trips | Total Trips |
|------|------------|-------|---------------------|-------------|
|      | %          | Trips |                     |             |
| 1    |            |       |                     |             |
| 2    |            |       |                     |             |
| 3    |            |       |                     |             |
| 4    | 74%        | 207   | 73                  | 281         |
| 5    | 74%        | 134   | 47                  | 181         |
| 6    | 22%        | 113   | 393                 | 506         |
| 7    | 22%        | 118   | 410                 | 528         |
| 8    | 22%        | 142   | 492                 | 634         |
| 9    |            |       |                     |             |
| 10   |            |       |                     |             |
| 11   |            | 32    |                     |             |

**No Project Alternative**

| Zone | Intermodal |       | Over-the-Road Trips | Total Trips |
|------|------------|-------|---------------------|-------------|
|      | %          | Trips |                     |             |
| 1    |            |       |                     |             |
| 2    |            |       |                     |             |
| 3    |            |       |                     |             |
| 4    | 15%        | 80    | 467                 | 548         |
| 5    | 15%        | 43    | 253                 | 296         |
| 6    | 6%         | 36    | 600                 | 636         |
| 7    | 6%         | 43    | 713                 | 756         |
| 8    | 6%         | 50    | 820                 | 870         |
| 9    |            |       |                     |             |
| 10   |            |       |                     |             |
| 11   |            | 5     |                     |             |

**Maximum Marine/Maximum Rail Alternative**

| Zone | Intermodal |       | Over-the-Road Trips | Total Trips |
|------|------------|-------|---------------------|-------------|
|      | %          | Trips |                     |             |
| 1    | 34%        | 447   | 859                 | 1,306       |
| 2    |            |       |                     |             |
| 3    | 62%        | 1,251 | 777                 | 2,028       |
| 4    |            |       |                     |             |
| 5    |            |       |                     |             |
| 6    | 34%        | 226   | 434                 | 660         |
| 7    | 34%        | 269   | 517                 | 786         |
| 8    | 34%        | 310   | 596                 | 906         |
| 9    |            |       |                     |             |
| 10   |            |       |                     |             |
| 11   |            |       |                     |             |

**Minimum Marine/Minimum Rail Alternative**

| Zone | Intermodal |       | Over-the-Road Trips | Total Trips |
|------|------------|-------|---------------------|-------------|
|      | %          | Trips |                     |             |
| 1    | 17%        | 83    | 407                 | 490         |
| 2    |            |       |                     |             |
| 3    | 39%        | 223   | 355                 | 578         |
| 4    | 39%        | 199   | 315                 | 514         |
| 5    | 39%        | 67    | 106                 | 173         |
| 6    | 17%        | 109   | 537                 | 646         |
| 7    | 17%        | 130   | 638                 | 768         |
| 8    | 17%        | 168   | 824                 | 992         |
| 9    |            |       |                     |             |
| 10   |            |       |                     |             |
| 11   |            |       |                     |             |

**Maximum Marine/Minimum Rail Alternative**

| Zone | Intermodal |       | Over-the-Road Trips | Total Trips |
|------|------------|-------|---------------------|-------------|
|      | %          | Trips |                     |             |
| 1    | 37%        | 541   | 919                 | 1,460       |
| 2    |            |       |                     |             |
| 3    | 65%        | 702   | 385                 | 1,088       |
| 4    | 65%        | 713   | 391                 | 1,104       |
| 5    |            |       |                     |             |
| 6    | 37%        | 246   | 418                 | 664         |
| 7    | 37%        | 292   | 496                 | 788         |
| 8    | 37%        | 337   | 573                 | 910         |
| 9    |            |       |                     |             |
| 10   |            |       |                     |             |
| 11   |            |       |                     |             |

**Reduced Harbor Fill Alternative**

| Zone | Intermodal |       | Over-the-Road Trips | Total Trips |
|------|------------|-------|---------------------|-------------|
|      | %          | Trips |                     |             |
| 1    | 36%        | 503   | 895                 | 1,398       |
| 2    |            |       |                     |             |
| 3    | 64%        | 1,351 | 776                 | 2,128       |
| 4    |            |       |                     |             |
| 5    |            |       |                     |             |
| 6    | 36%        | 239   | 425                 | 664         |
| 7    | 36%        | 284   | 504                 | 788         |
| 8    | 36%        | 326   | 580                 | 906         |
| 9    |            |       |                     |             |
| 10   |            |       |                     |             |
| 11   |            |       |                     |             |

**Table J.6-3**  
**FISCO/Port Vision 2000 EIS/EIR**  
**AM Peak Hour Truck Trip Generation (Inbound / Outbound Splits)**  
**(in passenger car equivalents: 1 truck = 2 cars)**

**Existing Conditions**

| Zone | Intermodal Trips |          | Over-the-Road Trips |          | Total Trips |
|------|------------------|----------|---------------------|----------|-------------|
|      | Inbound          | Outbound | Inbound             | Outbound |             |
| 1    |                  |          |                     |          |             |
| 2    |                  |          |                     |          |             |
| 3    |                  |          |                     |          |             |
| 4    | 115              | 123      | 41                  | 43       | 322         |
| 5    | 74               | 79       | 26                  | 28       | 208         |
| 6    | 63               | 67       | 217                 | 231      | 578         |
| 7    | 66               | 70       | 228                 | 243      | 606         |
| 8    | 79               | 84       | 274                 | 292      | 728         |
| 9    |                  |          |                     |          |             |
| 10   |                  |          |                     |          |             |
| 11   | 17               | 19       |                     |          | 36          |

**No Project Alternative**

| Zone | Intermodal Trips |          | Over-the-Road Trips |          | Total Trips |
|------|------------------|----------|---------------------|----------|-------------|
|      | Inbound          | Outbound | Inbound             | Outbound |             |
| 1    |                  |          |                     |          |             |
| 2    |                  |          |                     |          |             |
| 3    |                  |          |                     |          |             |
| 4    | 45               | 48       | 260                 | 276      | 629         |
| 5    | 24               | 26       | 140                 | 149      | 340         |
| 6    | 20               | 21       | 334                 | 355      | 730         |
| 7    | 24               | 26       | 397                 | 422      | 868         |
| 8    | 28               | 29       | 456                 | 485      | 998         |
| 9    |                  |          |                     |          |             |
| 10   |                  |          |                     |          |             |
| 11   | 3                | 3        |                     |          | 6           |

**Maximum Marine/Maximum Rail Alternative**

| Zone | Intermodal Trips |          | Over-the-Road Trips |          | Total Trips |
|------|------------------|----------|---------------------|----------|-------------|
|      | Inbound          | Outbound | Inbound             | Outbound |             |
| 1    | 248              | 264      | 476                 | 508      | 1,496       |
| 2    |                  |          |                     |          |             |
| 3    | 694              | 739      | 431                 | 459      | 2,323       |
| 4    |                  |          |                     |          |             |
| 5    |                  |          |                     |          |             |
| 6    | 125              | 133      | 241                 | 257      | 756         |
| 7    | 149              | 159      | 287                 | 306      | 900         |
| 8    | 172              | 183      | 331                 | 352      | 1,038       |
| 9    |                  |          |                     |          |             |
| 10   |                  |          |                     |          |             |
| 11   |                  |          |                     |          |             |

**Minimum Marine/Minimum Rail Alternative**

| Zone | Intermodal Trips |          | Over-the-Road Trips |          | Total Trips |
|------|------------------|----------|---------------------|----------|-------------|
|      | Inbound          | Outbound | Inbound             | Outbound |             |
| 1    | 46               | 49       | 226                 | 241      | 562         |
| 2    |                  |          |                     |          |             |
| 3    | 124              | 132      | 197                 | 210      | 662         |
| 4    | 110              | 117      | 175                 | 186      | 589         |
| 5    | 37               | 40       | 59                  | 63       | 199         |
| 6    | 60               | 64       | 298                 | 317      | 740         |
| 7    | 72               | 77       | 354                 | 377      | 880         |
| 8    | 93               | 99       | 457                 | 487      | 1,136       |
| 9    |                  |          |                     |          |             |
| 10   |                  |          |                     |          |             |
| 11   |                  |          |                     |          |             |

**Maximum Marine/Minimum Rail Alternative**

| Zone | Intermodal Trips |          | Over-the-Road Trips |          | Total Trips |
|------|------------------|----------|---------------------|----------|-------------|
|      | Inbound          | Outbound | Inbound             | Outbound |             |
| 1    | 300              | 320      | 511                 | 544      | 1,676       |
| 2    |                  |          |                     |          |             |
| 3    | 390              | 415      | 214                 | 228      | 1,247       |
| 4    | 396              | 421      | 217                 | 231      | 1,266       |
| 5    |                  |          |                     |          |             |
| 6    | 136              | 145      | 232                 | 247      | 760         |
| 7    | 162              | 173      | 276                 | 294      | 904         |
| 8    | 187              | 199      | 318                 | 338      | 1,042       |
| 9    |                  |          |                     |          |             |
| 10   |                  |          |                     |          |             |
| 11   |                  |          |                     |          |             |

**Reduced Harbor Fill Alternative**

| Zone | Intermodal Trips |          | Over-the-Road Trips |          | Total Trips |
|------|------------------|----------|---------------------|----------|-------------|
|      | Inbound          | Outbound | Inbound             | Outbound |             |
| 1    | 279              | 297      | 497                 | 529      | 1,602       |
| 2    |                  |          |                     |          |             |
| 3    | 751              | 799      | 431                 | 459      | 2,439       |
| 4    |                  |          |                     |          |             |
| 5    |                  |          |                     |          |             |
| 6    | 132              | 141      | 236                 | 251      | 760         |
| 7    | 158              | 168      | 280                 | 298      | 904         |
| 8    | 181              | 193      | 323                 | 343      | 1,040       |
| 9    |                  |          |                     |          |             |
| 10   |                  |          |                     |          |             |
| 11   |                  |          |                     |          |             |

**Table J.6-4**  
**FISCO/Port Vision 2000 EIS/EIR**  
**PM Peak Hour Truck Trip Generation (Inbound / Outbound Splits)**  
**(in passenger car equivalents: 1 truck = 2 cars)**

**Existing Conditions**

| Zone | Intermodal Trips |          | Over-the-Road Trips |          | Total Trips |
|------|------------------|----------|---------------------|----------|-------------|
|      | Inbound          | Outbound | Inbound             | Outbound |             |
| 1    |                  |          |                     |          |             |
| 2    |                  |          |                     |          |             |
| 3    |                  |          |                     |          |             |
| 4    | 94               | 113      | 33                  | 40       | 281         |
| 5    | 61               | 73       | 22                  | 26       | 181         |
| 6    | 51               | 62       | 179                 | 214      | 506         |
| 7    | 54               | 64       | 186                 | 224      | 528         |
| 8    | 64               | 77       | 224                 | 269      | 634         |
| 9    |                  |          |                     |          |             |
| 10   |                  |          |                     |          |             |
| 11   | 14               | 17       |                     |          | 32          |

**No Project Alternative**

| Zone | Intermodal Trips |          | Over-the-Road Trips |          | Total Trips |
|------|------------------|----------|---------------------|----------|-------------|
|      | Inbound          | Outbound | Inbound             | Outbound |             |
| 1    |                  |          |                     |          |             |
| 2    |                  |          |                     |          |             |
| 3    |                  |          |                     |          |             |
| 4    | 37               | 44       | 213                 | 255      | 548         |
| 5    | 20               | 24       | 115                 | 138      | 296         |
| 6    | 17               | 20       | 273                 | 327      | 636         |
| 7    | 20               | 24       | 325                 | 388      | 756         |
| 8    | 23               | 27       | 374                 | 447      | 870         |
| 9    |                  |          |                     |          |             |
| 10   |                  |          |                     |          |             |
| 11   | 2                | 3        |                     |          | 5           |

**Maximum Marine/Maximum Rail Alternative**

| Zone | Intermodal Trips |          | Over-the-Road Trips |          | Total Trips |
|------|------------------|----------|---------------------|----------|-------------|
|      | Inbound          | Outbound | Inbound             | Outbound |             |
| 1    | 203              | 243      | 391                 | 468      | 1,306       |
| 2    |                  |          |                     |          |             |
| 3    | 569              | 682      | 353                 | 423      | 2,028       |
| 4    |                  |          |                     |          |             |
| 5    |                  |          |                     |          |             |
| 6    | 103              | 123      | 198                 | 237      | 660         |
| 7    | 122              | 147      | 235                 | 282      | 786         |
| 8    | 141              | 169      | 271                 | 325      | 906         |
| 9    |                  |          |                     |          |             |
| 10   |                  |          |                     |          |             |
| 11   |                  |          |                     |          |             |

**Minimum Marine/Minimum Rail Alternative**

| Zone | Intermodal Trips |          | Over-the-Road Trips |          | Total Trips |
|------|------------------|----------|---------------------|----------|-------------|
|      | Inbound          | Outbound | Inbound             | Outbound |             |
| 1    | 38               | 45       | 185                 | 222      | 490         |
| 2    |                  |          |                     |          |             |
| 3    | 102              | 122      | 161                 | 193      | 578         |
| 4    | 90               | 108      | 144                 | 172      | 514         |
| 5    | 31               | 37       | 48                  | 58       | 173         |
| 6    | 50               | 59       | 244                 | 293      | 646         |
| 7    | 59               | 71       | 290                 | 348      | 768         |
| 8    | 76               | 91       | 375                 | 449      | 992         |
| 9    |                  |          |                     |          |             |
| 10   |                  |          |                     |          |             |
| 11   |                  |          |                     |          |             |

**Maximum Marine/Minimum Rail Alternative**

| Zone | Intermodal Trips |          | Over-the-Road Trips |          | Total Trips |
|------|------------------|----------|---------------------|----------|-------------|
|      | Inbound          | Outbound | Inbound             | Outbound |             |
| 1    | 246              | 295      | 418                 | 501      | 1,460       |
| 2    |                  |          |                     |          |             |
| 3    | 319              | 383      | 175                 | 210      | 1,088       |
| 4    | 324              | 389      | 178                 | 213      | 1,104       |
| 5    |                  |          |                     |          |             |
| 6    | 112              | 134      | 190                 | 228      | 664         |
| 7    | 133              | 159      | 226                 | 271      | 788         |
| 8    | 153              | 184      | 261                 | 312      | 910         |
| 9    |                  |          |                     |          |             |
| 10   |                  |          |                     |          |             |
| 11   |                  |          |                     |          |             |

**Reduced Harbor Fill Alternative**

| Zone | Intermodal Trips |          | Over-the-Road Trips |          | Total Trips |
|------|------------------|----------|---------------------|----------|-------------|
|      | Inbound          | Outbound | Inbound             | Outbound |             |
| 1    | 229              | 274      | 407                 | 488      | 1,398       |
| 2    |                  |          |                     |          |             |
| 3    | 615              | 737      | 353                 | 423      | 2,128       |
| 4    |                  |          |                     |          |             |
| 5    |                  |          |                     |          |             |
| 6    | 109              | 130      | 193                 | 232      | 664         |
| 7    | 129              | 155      | 229                 | 275      | 788         |
| 8    | 148              | 178      | 264                 | 316      | 906         |
| 9    |                  |          |                     |          |             |
| 10   |                  |          |                     |          |             |
| 11   |                  |          |                     |          |             |

**Table J.6-5**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Distribution from Marine Terminals to Rail Terminals**  
**AM Peak Hour**

**Existing Conditions**

| Zone | Intermodal | Over-the-Road Trips |
|------|------------|---------------------|
| 1    |            |                     |
| 2    |            |                     |
| 3    |            |                     |
| 4    | 55.6%      | 60.8%               |
| 5    | 35.9%      | 39.2%               |
| 6    |            |                     |
| 7    |            |                     |
| 8    |            |                     |
| 9    |            |                     |
| 10   |            |                     |
| 11   | 8.5%       |                     |

**No Project Alternative**

| Zone | Intermodal | Over-the-Road Trips |
|------|------------|---------------------|
| 1    |            |                     |
| 2    |            |                     |
| 3    |            |                     |
| 4    | 62.2%      | 64.9%               |
| 5    | 33.6%      | 35.1%               |
| 6    |            |                     |
| 7    |            |                     |
| 8    |            |                     |
| 9    |            |                     |
| 10   |            |                     |
| 11   | 4.2%       |                     |

**Maximum Marine/Maximum Rail Alternative**

| Zone | Intermodal | Over-the-Road Trips |
|------|------------|---------------------|
| 1    |            |                     |
| 2    |            |                     |
| 3    | 100.0%     | 100.0%              |
| 4    |            |                     |
| 5    |            |                     |
| 6    |            |                     |
| 7    |            |                     |
| 8    |            |                     |
| 9    |            |                     |
| 10   |            |                     |
| 11   |            |                     |

**Minimum Marine/Minimum Rail Alternative**

| Zone | Intermodal | Over-the-Road Trips |
|------|------------|---------------------|
| 1    |            |                     |
| 2    |            |                     |
| 3    |            |                     |
| 4    | 45.7%      | 45.7%               |
| 5    | 40.6%      | 40.6%               |
| 6    | 13.7%      | 13.7%               |
| 7    |            |                     |
| 8    |            |                     |
| 9    |            |                     |
| 10   |            |                     |
| 11   |            |                     |

**Maximum Marine/Minimum Rail Alternative**

| Zone | Intermodal | Over-the-Road Trips |
|------|------------|---------------------|
| 1    |            |                     |
| 2    |            |                     |
| 3    | 49.6%      | 49.6%               |
| 4    | 50.4%      | 50.4%               |
| 5    |            |                     |
| 6    |            |                     |
| 7    |            |                     |
| 8    |            |                     |
| 9    |            |                     |
| 10   |            |                     |
| 11   |            |                     |

**Reduced Harbor Fill Alternative**

| Zone | Intermodal | Over-the-Road Trips |
|------|------------|---------------------|
| 1    |            |                     |
| 2    |            |                     |
| 3    | 100.0%     | 100.0%              |
| 4    |            |                     |
| 5    |            |                     |
| 6    |            |                     |
| 7    |            |                     |
| 8    |            |                     |
| 9    |            |                     |
| 10   |            |                     |
| 11   |            |                     |



Table J.6-6  
FISCO/Port Vision 2000 EIS/EIR  
Distribution from Marine Terminals to Rail Terminals  
PM Peak Hour

**Existing Conditions**

| Zone | Intermodal | Over-the-Road Trips |
|------|------------|---------------------|
| 1    |            |                     |
| 2    |            |                     |
| 3    |            |                     |
| 4    | 55.6%      | 60.8%               |
| 5    | 35.9%      | 39.2%               |
| 6    |            |                     |
| 7    |            |                     |
| 8    |            |                     |
| 9    |            |                     |
| 10   |            |                     |
| 11   | 8.5%       |                     |

**No Project Alternative**

| Zone | Intermodal | Over-the-Road Trips |
|------|------------|---------------------|
| 1    |            |                     |
| 2    |            |                     |
| 3    |            |                     |
| 4    | 62.2%      | 64.9%               |
| 5    | 33.6%      | 35.1%               |
| 6    |            |                     |
| 7    |            |                     |
| 8    |            |                     |
| 9    |            |                     |
| 10   |            |                     |
| 11   | 4.2%       |                     |

**Maximum Marine/Maximum Rail Alternative**

| Zone | Intermodal | Over-the-Road Trips |
|------|------------|---------------------|
| 1    |            |                     |
| 2    |            |                     |
| 3    | 100.0%     | 100.0%              |
| 4    |            |                     |
| 5    |            |                     |
| 6    |            |                     |
| 7    |            |                     |
| 8    |            |                     |
| 9    |            |                     |
| 10   |            |                     |
| 11   |            |                     |

**Minimum Marine/Minimum Rail Alternative**

| Zone | Intermodal | Over-the-Road Trips |
|------|------------|---------------------|
| 1    |            |                     |
| 2    |            |                     |
| 3    |            |                     |
| 4    | 45.7%      | 45.7%               |
| 5    | 40.6%      | 40.6%               |
| 6    | 13.7%      | 13.7%               |
| 7    |            |                     |
| 8    |            |                     |
| 9    |            |                     |
| 10   |            |                     |
| 11   |            |                     |

**Maximum Marine/Minimum Rail Alternative**

| Zone | Intermodal | Over-the-Road Trips |
|------|------------|---------------------|
| 1    |            |                     |
| 2    |            |                     |
| 3    | 49.6%      | 49.6%               |
| 4    | 50.4%      | 50.4%               |
| 5    |            |                     |
| 6    |            |                     |
| 7    |            |                     |
| 8    |            |                     |
| 9    |            |                     |
| 10   |            |                     |
| 11   |            |                     |

**Reduced Harbor Fill Alternative**

| Zone | Intermodal | Over-the-Road Trips |
|------|------------|---------------------|
| 1    |            |                     |
| 2    |            |                     |
| 3    | 100.0%     | 100.0%              |
| 4    |            |                     |
| 5    |            |                     |
| 6    |            |                     |
| 7    |            |                     |
| 8    |            |                     |
| 9    |            |                     |
| 10   |            |                     |
| 11   |            |                     |

Table J.6-7  
FISCO/Port Vision 2000 EIR/EIS  
Public Recreation Area  
Maximum Marine/Maximum Rail Alternative

| Land Use                          | Amount          | Trip Generation<br><br>Land Use          | Source    | Amount         | Trip Generation Rates |      |              |      | Trips Generated |     |              |     |
|-----------------------------------|-----------------|--|-----------|----------------|-----------------------|------|--------------|------|-----------------|-----|--------------|-----|
|                                   |                 |  |           |                | AM Peak Hour          |      | PM Peak Hour |      | AM Peak Hour    |     | PM Peak Hour |     |
|                                   |                 |  |           |                | In                    | Out  | In           | Out  | In              | Out | In           | Out |
| <b>Recreation</b>                 |                 |  |           |                |                       |      |              |      |                 |     |              |     |
| Softball/Baseball Recreation Area | 132,000 Sq. Ft. | Developed Regional Park (Included Above) | SANDAG    | 7.2 Acres      | 0.48                  | 0.32 | 0.64         | 0.96 | 3               | 2   | 5            | 7   |
| Nature Study                      | 50,000 Sq. Ft.  | (Included Above)                         |           |                |                       |      |              |      |                 |     |              |     |
| Beach                             | 120,000 Sq. Ft. | Bay Beach                                | SANDAG    | 2.8 Acres      |                       |      | 2.64         | 3.96 |                 |     | 7            | 11  |
| Boat Launch                       | 1 Ramp          | (Included Below)                         |           |                |                       |      |              |      |                 |     |              |     |
| Marina                            | 116 Berths      | Marina                                   | ITE (420) | 150 Berths     | 0.03                  | 0.05 | 0.11         | 0.08 | 4               | 8   | 17           | 11  |
| Roller Blading, etc.              |                 | (Included Above)                         |           |                |                       |      |              |      |                 |     |              |     |
| <b>Cummunity</b>                  |                 |  |           |                |                       |      |              |      |                 |     |              |     |
| Snack Bar, etc.                   | 3,000 Sq. Ft.   | Recreational Comm Ctr (Included Above)   | ITE (495) | 11,400 Sq. Ft. | 0.67                  | 0.41 | 0.39         | 0.99 | 8               | 5   | 4            | 11  |
| Ceremonial Events                 | 4,000 Sq. Ft.   | (Included Above)                         |           |                |                       |      |              |      |                 |     |              |     |
| Ceremonial Events                 | 4,400 Sq. Ft.   | (Included Above)                         |           |                |                       |      |              |      |                 |     |              |     |
| <b>Total Trips</b>                |                 |  |           |                |                       |      |              |      | 15              | 15  | 33           | 40  |

Table J.6-8  
FISCO/Port Vision 2000 EIR/EIS  
Public Recreation Area  
Minimum Marine/Minimum Rail Alternative

| Land Use                             | Amount                            | Trip Generation<br><br>Land Use             | Source    | Amount         | Trip Generation Rates |      |              |      | Trips Generated |     |              |     |
|--------------------------------------|-----------------------------------|---|-----------|----------------|-----------------------|------|--------------|------|-----------------|-----|--------------|-----|
|                                      |                                   |   |           |                | AM Peak Hour          |      | PM Peak Hour |      | AM Peak Hour    |     | PM Peak Hour |     |
|                                      |                                   |   |           |                | In                    | Out  | In           | Out  | In              | Out | In           | Out |
| <b>Recreation</b>                    |                                   |   |           |                |                       |      |              |      |                 |     |              |     |
| Softball/Baseball<br>Recreation Area | 132,000 Sq. Ft.<br>80,000 Sq. Ft. | Developed Regional Park<br>(Included Above) | SANDAG    | 4.9 Acres      | 0.48                  | 0.32 | 0.64         | 0.96 | 2               | 2   | 3            | 5   |
| Beach                                | 3,600 Sq. Ft.                     | Bay Beach                                   | SANDAG    | 0.1 Acres      |                       |      | 2.64         | 3.96 |                 |     | 0            | 0   |
| <b>Cummunity</b>                     |                                   |   |           |                |                       |      |              |      |                 |     |              |     |
| Restaurant, etc.                     | 33,600 Sq. Ft.                    | Recreational Comm Ctr                       | ITE (495) | 33,600 Sq. Ft. | 0.67                  | 0.41 | 0.39         | 0.99 | 22              | 14  | 13           | 33  |
| <b>Total Trips</b>                   |                                   |   |           |                |                       |      |              |      | 24              | 16  | 16           | 38  |

Table J.6-9  
FISCO/Port Vision 2000 EIR/EIS  
Public Recreation Area  
Maximum Marine/Minimum Rail Alternative

| Land Use             | Amount          | Trip Generation<br><br>Land Use | Source    | Amount         | Trip Generation Rates |      |              |      | Trips Generated |     |              |     |
|----------------------|-----------------|---------------------------------|-----------|----------------|-----------------------|------|--------------|------|-----------------|-----|--------------|-----|
|                      |                 |                                 |           |                | AM Peak Hour          |      | PM Peak Hour |      | AM Peak Hour    |     | PM Peak Hour |     |
|                      |                 |                                 |           |                | In                    | Out  | In           | Out  | In              | Out | In           | Out |
| <b>Recreation</b>    |                 |                                 |           |                |                       |      |              |      |                 |     |              |     |
| Softball/Baseball    | 140,000 Sq. Ft. | Developed Regional Park         | SANDAG    | 11.7 Acres     | 0.48                  | 0.32 | 0.64         | 0.96 | 6               | 4   | 7            | 11  |
| Sports Field         | 175,000 Sq. Ft. | (Included Above)                |           |                |                       |      |              |      |                 |     |              |     |
| Recreation Area      | 145,000 Sq. Ft. | (Included Above)                |           |                |                       |      |              |      |                 |     |              |     |
| Nature Study         | 50,000 Sq. Ft.  | (Included Above)                |           |                |                       |      |              |      |                 |     |              |     |
| Beach                | 62,000 Sq. Ft.  | Bay Beach                       | SANDAG    | 2.9 Acres      |                       |      | 2.64         | 3.96 |                 |     | 8            | 11  |
| Roller Blading, etc. | 62,500 Sq. Ft.  | (Included Above)                |           |                |                       |      |              |      |                 |     |              |     |
| <b>Cummunity</b>     |                 |                                 |           |                |                       |      |              |      |                 |     |              |     |
| Restaurant, etc.     | 33,600          | Recreational Comm Ctr           | ITE (495) | 37,600 Sq. Ft. | 0.67                  | 0.41 | 0.39         | 0.99 | 25              | 15  | 15           | 37  |
| Snack Bar, etc.      | 4,000 Sq. Ft.   | (Included Above)                |           |                |                       |      |              |      |                 |     |              |     |
| <b>Total Trips</b>   |                 |                                 |           |                |                       |      |              |      | 31              | 19  | 30           | 59  |



Table J.6-10  
FISCO/Port Vision 2000 EIR/EIS  
Public Recreation Area  
Reduced Harbor Fill Alternative

| Land Use           | Amount          | Trip Generation<br><br>Land Use | Source    | Amount         | Trip Generation Rates |      |              |      | Trips Generated |     |              |     |
|--------------------|-----------------|---------------------------------|-----------|----------------|-----------------------|------|--------------|------|-----------------|-----|--------------|-----|
|                    |                 |                                 |           |                | AM Peak Hour          |      | PM Peak Hour |      | AM Peak Hour    |     | PM Peak Hour |     |
|                    |                 |                                 |           |                | In                    | Out  | In           | Out  | In              | Out | In           | Out |
| <b>Recreation</b>  |                 |                                 |           |                |                       |      |              |      |                 |     |              |     |
| Softball/Baseball  | 170,000 Sq. Ft. | Developed Regional Park         | SANDAG    | 14.6 Acres     | 0.48                  | 0.32 | 0.64         | 0.96 | 7               | 5   | 9            | 14  |
| Sports Field       | 75,000 Sq. Ft.  | (Included Above)                |           |                |                       |      |              |      |                 |     |              |     |
| Recreation Area    | 200,000 Sq. Ft. | (Included Above)                |           |                |                       |      |              |      |                 |     |              |     |
| Nature Study       | 100,000 Sq. Ft. | (Included Above)                |           |                |                       |      |              |      |                 |     |              |     |
| Amphitheater       | 90,000 Sq. Ft.  | (Included Above)                |           |                |                       |      |              |      |                 |     |              |     |
| Beach              | 537,000 Sq. Ft. | Bay Beach                       | SANDAG    | 12.3 Acres     |                       |      | 2.64         | 3.96 |                 |     | 33           | 49  |
| <b>Cummunity</b>   |                 |                                 |           |                |                       |      |              |      |                 |     |              |     |
| Restaurant, etc.   | 33,600          | Recreational Comm Ctr           | ITE (495) | 33,600 Sq. Ft. | 0.67                  | 0.41 | 0.39         | 0.99 | 22              | 14  | 13           | 33  |
| <b>Total Trips</b> |                 |                                 |           |                |                       |      |              |      | 29              | 19  | 55           | 96  |

## Appendix J.7

### Level of Service Calculations



Table J.7-1

| NOBLD-AM.CMD                   |                  |        |                |         |          |          |           |             |            |
|--------------------------------|------------------|--------|----------------|---------|----------|----------|-----------|-------------|------------|
| Tue Nov 5, 1996 13:08:31       |                  |        |                |         |          |          |           |             |            |
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| FISCO/Port Vision 2000 EIS/EIR |                  |        |                |         |          |          |           |             |            |
| No Project Alternative         |                  |        |                |         |          |          |           |             |            |
| AM Peak Hour                   |                  |        |                |         |          |          |           |             |            |
| Trip Generation Report         |                  |        |                |         |          |          |           |             |            |
| Forecast for AM Peak Hour      |                  |        |                |         |          |          |           |             |            |
| Zone #                         | Subzone          | Amount | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
| 1                              | FISCO 4 & 5      | 200.00 | Employees      | 0.28    | 0.05     | 56       | 10        | 66          | 1.5        |
|                                | Zone 1 Subtotal  |        |                |         |          | 56       | 10        | 66          | 1.5        |
| 2                              | FISCO 1,2,3      | 500.00 | Employees      | 0.28    | 0.05     | 140      | 25        | 165         | 3.8        |
|                                | Zone 2 Subtotal  |        |                |         |          | 140      | 25        | 165         | 3.8        |
| 4                              | SP Rail Term     | 130.00 | Employees      | 0.40    | 0.09     | 52       | 12        | 64          | 1.5        |
|                                | Zone 4 Subtotal  |        |                |         |          | 52       | 12        | 64          | 1.5        |
| 5                              | UP Rail Term     | 82.00  | Employees      | 0.40    | 0.09     | 33       | 7         | 40          | 0.9        |
|                                | Zone 5 Subtotal  |        |                |         |          | 33       | 7         | 40          | 0.9        |
| 6                              | Middle Harbr     | 516.00 | Employees      | 0.26    | 0.05     | 134      | 26        | 160         | 3.7        |
|                                | Zone 6 Subtotal  |        |                |         |          | 134      | 26        | 160         | 3.7        |
| 7                              | 7th St Harbr     | 613.00 | Employees      | 0.26    | 0.05     | 159      | 31        | 190         | 4.4        |
|                                | Zone 7 Subtotal  |        |                |         |          | 159      | 31        | 190         | 4.4        |
| 8                              | Outer Harbor     | 706.00 | Employees      | 0.26    | 0.05     | 184      | 35        | 219         | 5.1        |
|                                | Zone 8 Subtotal  |        |                |         |          | 184      | 35        | 219         | 5.1        |
| 16                             | Middle Harbr     | 1.00   | Trucks Inter   | 20.00   | 21.00    | 20       | 21        | 41          | 0.9        |
|                                | Zone 16 Subtotal |        |                |         |          | 20       | 21        | 41          | 0.9        |
| 17                             | 7th St Harbr     | 1.00   | Trucks Inter   | 24.00   | 26.00    | 24       | 26        | 50          | 1.2        |
|                                | Zone 17 Subtotal |        |                |         |          | 24       | 26        | 50          | 1.2        |
| 18                             | Outer Harbor     | 1.00   | Trucks Inter   | 28.00   | 29.00    | 28       | 29        | 57          | 1.3        |
|                                | Zone 18 Subtotal |        |                |         |          | 28       | 29        | 57          | 1.3        |
| 24                             | SP Rail Term     | 1.00   | Truck External | 260.00  | 276.00   | 260      | 276       | 536         | 12.4       |
|                                | Zone 24 Subtotal |        |                |         |          | 260      | 276       | 536         | 12.4       |
| 25                             | UP Rail Term     | 1.00   | Truck External | 140.00  | 149.00   | 140      | 149       | 289         | 6.7        |
|                                | Zone 25 Subtotal |        |                |         |          | 140      | 149       | 289         | 6.7        |
| 26                             | Middle Harbr     | 1.00   | Truck External | 334.00  | 355.00   | 334      | 355       | 689         | 15.9       |
|                                | Zone 26 Subtotal |        |                |         |          | 334      | 355       | 689         | 15.9       |
| 27                             | 7th St Harbr     | 1.00   | Truck External | 397.00  | 422.00   | 397      | 422       | 819         | 18.9       |
|                                | Zone 27 Subtotal |        |                |         |          | 397      | 422       | 819         | 18.9       |
| 28                             | Outer Harbor     | 1.00   | Truck External | 456.00  | 485.00   | 456      | 485       | 941         | 21.8       |

| NOBLD-AM.CMD                   |         |        |       |         |          |          |           |             |            |
|--------------------------------|---------|--------|-------|---------|----------|----------|-----------|-------------|------------|
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| FISCO/Port Vision 2000 EIS/EIR |         |        |       |         |          |          |           |             |            |
| No Project Alternative         |         |        |       |         |          |          |           |             |            |
| AM Peak Hour                   |         |        |       |         |          |          |           |             |            |
| Zone #                         | Subzone | Amount | Units | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
| Zone 28 Subtotal               |         |        |       |         |          | 456      | 485       | 941         | 21.8       |
| TOTAL                          |         |        |       |         |          | 2417     | 1909      | 4326        | 100.0      |



Table J.7-1 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
No Project Alternative  
AM Peak Hour

## Trip Distribution Report

## Percent Of Trips Existing

| Zone | To Gates |      |      |      |      |      |      |      |
|------|----------|------|------|------|------|------|------|------|
|      | 4        | 5    | 11   | 12   | 13   | 14   | 15   | 16   |
| 1    | 0.0      | 0.0  | 10.0 | 30.0 | 7.0  | 19.0 | 19.0 | 15.0 |
| 2    | 0.0      | 0.0  | 10.0 | 30.0 | 7.0  | 19.0 | 19.0 | 15.0 |
| 4    | 0.0      | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0 |
| 5    | 0.0      | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0 |
| 6    | 0.0      | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0 |
| 7    | 0.0      | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0 |
| 8    | 0.0      | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0 |
| 16   | 62.2     | 33.6 | 0.0  | 4.2  | 0.0  | 0.0  | 0.0  | 0.0  |
| 17   | 62.2     | 33.6 | 0.0  | 4.2  | 0.0  | 0.0  | 0.0  | 0.0  |
| 18   | 62.2     | 33.6 | 0.0  | 4.2  | 0.0  | 0.0  | 0.0  | 0.0  |
| 24   | 0.0      | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0 |
| 25   | 0.0      | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0 |
| 26   | 0.0      | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0 |
| 27   | 0.0      | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0 |
| 28   | 0.0      | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0 |

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FISCO/Port Vision 2000 EIS/EIR  
No Project Alternative  
AM Peak Hour

Turning Movement Report  
AM Peak Hour

| Volume Type                      | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total Volume |
|----------------------------------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------------|
|                                  | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |              |
| #3 Maritime/Burma                |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 5          | 78   | 0     | 0          | 287  | 0     | 0         | 0    | 5     | 0         | 0    | 0     | 375          |
| Added                            | 0          | 262  | 0     | 0          | 338  | 212   | 144       | 0    | 0     | 0         | 0    | 0     | 956          |
| Total                            | 5          | 340  | 0     | 0          | 625  | 212   | 144       | 0    | 5     | 0         | 0    | 0     | 1331         |
| #4 Maritime/14th                 |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 0          | 91   | 39    | 103        | 261  | 0     | 0         | 0    | 0     | 22        | 0    | 87    | 603          |
| Added                            | 319        | 147  | 0     | 0          | 202  | 136   | 115       | 0    | 290   | 0         | 0    | 0     | 1209         |
| Total                            | 319        | 238  | 39    | 103        | 463  | 136   | 115       | 0    | 290   | 22        | 0    | 87    | 1812         |
| #5 Maritime/7th Ext.             |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 159        | 0    | 0     | 0          | 0    | 334   | 69        | 0    | 37    | 0         | 0    | 0     | 599          |
| Added                            | 25         | 466  | 0     | 0          | 488  | 4     | 1         | 0    | 5     | 0         | 0    | 0     | 988          |
| Total                            | 184        | 466  | 0     | 0          | 488  | 338   | 70        | 0    | 42    | 0         | 0    | 0     | 1587         |
| #6 7th/7th Ext.                  |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 15         | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 26        | 0    | 54    | 95           |
| Added                            | 23         | 118  | 57    | 267        | 137  | 88    | 55        | 399  | 25    | 61        | 469  | 318   | 2017         |
| Total                            | 38         | 118  | 57    | 267        | 137  | 88    | 55        | 399  | 25    | 87        | 469  | 372   | 2112         |
| #7 Middle Harbor/Gate 2          |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 53         | 0    | 45    | 0          | 0    | 0     | 0         | 0    | 39    | 208       | 338  | 0     | 683          |
| Added                            | 2          | 0    | 28    | 0          | 0    | 0     | 0         | 207  | 10    | 157       | 217  | 0     | 621          |
| PassBy                           | 176        | 0    | 264   | 0          | 0    | 0     | 0         | 0    | 117   | 176       | 0    | 0     | 733          |
| Total                            | 231        | 0    | 337   | 0          | 0    | 0     | 0         | 207  | 166   | 541       | 555  | 0     | 2037         |
| #8 Adeline St./ 3rd St.          |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 8          | 0    | 31    | 26         | 0    | 26    | 8         | 6    | 29    | 50        | 59   | 56    | 299          |
| Added                            | 0          | 707  | 0     | 0          | 950  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1657         |
| Total                            | 8          | 707  | 31    | 26         | 950  | 26    | 8         | 6    | 29    | 50        | 59   | 56    | 1956         |
| #12 Maritime/W.Grand/I-880 Ramps |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 0          | 33   | 0     | 16         | 28   | 47    | 48        | 394  | 438   | 0         | 300  | 9     | 1313         |
| Added                            | 271        | 0    | 134   | 0          | 0    | 0     | 0         | 0    | 403   | 147       | 0    | 0     | 956          |
| Total                            | 271        | 33   | 134   | 16         | 28   | 47    | 48        | 394  | 841   | 147       | 300  | 9     | 2269         |
| #13 Adeline/5th/I-880 SB Ramps   |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 0          | 0    | 0     | 72         | 109  | 165   | 256       | 51   | 0     | 0         | 169  | 364   | 1186         |
| Added                            | 153        | 117  | 437   | 0          | 177  | 0     | 0         | 0    | 227   | 546       | 0    | 0     | 1657         |
| Total                            | 153        | 117  | 437   | 72         | 286  | 165   | 256       | 51   | 227   | 546       | 169  | 364   | 2843         |
| #14 Union/5th/I-880 NB Ramps     |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 0          | 175  | 45    | 0          | 154  | 31    | 24        | 43   | 13    | 205       | 31   | 115   | 836          |
| Added                            | 0          | 0    | 227   | 0          | 0    | 0     | 0         | 0    | 0     | 153       | 0    | 0     | 380          |
| Total                            | 0          | 175  | 272   | 0          | 154  | 31    | 24        | 43   | 13    | 358       | 31   | 115   | 1216         |

**Table J.7-1 (Continued)**

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| FISCO/Port Vision 2000 EIS/EIR     |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| No Project Alternative             |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| AM Peak Hour                       |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Volume                             | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |          | Total  |
| Type                               | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right    | Volume |
| #15 7th/I-880 NB Ramp/Frontage Rd. |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                               | 0          | 548                      | 21    | 17         | 0    | 94    | 0         | 16   | 0     | 0         | 62   | 1        | 759    |
| Added                              | 564        | 0                        | 0     | 0          | 0    | 275   | 227       | 2    | 0     | 0         | 8    | 0        | 1076   |
| Total                              | 564        | 548                      | 21    | 17         | 0    | 369   | 227       | 18   | 0     | 0         | 70   | 1        | 1835   |
| #16 7th/I-880 SB Ramp              |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                               | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 65        | 0    | 0        | 65     |
| Added                              | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 229  | 495   | 0         | 847  | 0        | 1571   |
| Total                              | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 229  | 495   | 65        | 847  | 0        | 1636   |
| #17 14th/I-880 Frontage Rd.        |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                               | 0          | 0                        | 89    | 30         | 0    | 0     | 0         | 0    | 0     | 140       | 0    | 6        | 265    |
| Added                              | 0          | 227                      | 0     | 0          | 275  | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 502    |
| Total                              | 0          | 227                      | 89    | 30         | 275  | 0     | 0         | 0    | 0     | 140       | 0    | 6        | 767    |
| #18 W.Grand/I-880 Frontage Rd.     |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                               | 9          | 0                        | 0     | 678        | 48   | 6     | 65        | 234  | 12    | 0         | 152  | 449      | 1653   |
| Added                              | 0          | 151                      | 76    | 0          | 185  | 0     | 0         | 134  | 0     | 90        | 147  | 0        | 784    |
| Total                              | 9          | 151                      | 76    | 678        | 233  | 6     | 65        | 368  | 12    | 90        | 299  | 449      | 2437   |
| #138                               |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                               | 0          | -156                     | 0     | 0          | -173 | -26   | -24       | 0    | 0     | 0         | 0    | 0        | -379   |
| Added                              | 0          | 156                      | 0     | 0          | 173  | 26    | 24        | 0    | 0     | 0         | 0    | 0        | 379    |
| Total                              | 0          | 0                        | 0     | 0          | 0    | -0    | 0         | 0    | 0     | 0         | 0    | 0        | -0     |
| #158                               |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                               | 0          | -180                     | -129  | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -309   |
| Added                              | 0          | 180                      | 129   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 309    |
| Total                              | 0          | -0                       | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 0      |
| #159                               |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                               | -180       | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -178 | 0        | -358   |
| Added                              | 180        | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 178  | 0        | 358    |
| Total                              | -0         | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -0     |
| #160                               |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                               | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -178      | -180 | 0        | -358   |
| Added                              | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 178       | 180  | 0        | 358    |
| Total                              | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -0   | 0        | -0     |
| #161                               |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                               | 0          | 0                        | 0     | 0          | -178 | 0     | 0         | 0    | -286  | 0         | 0    | 0        | -464   |
| Added                              | 0          | 0                        | 0     | 0          | 178  | 0     | 0         | 0    | 286   | 0         | 0    | 0        | 464    |
| Total                              | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | -0    | 0         | 0    | 0        | -0     |

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|--------------------------------|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| No Project Alternative         |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| AM Peak Hour                   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Volume                         | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |          | Total  |
| Type                           | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right    | Volume |
| #165                           |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                           | 0          | 0                        | 0     | 0          | -227 | 0     | 0         | 0    | -495  | 0         | 0    | 0        | -722   |
| Added                          | 0          | 0                        | 0     | 0          | 227  | 0     | 0         | 0    | 495   | 0         | 0    | 0        | 722    |
| Total                          | 0          | 0                        | 0     | 0          | -0   | 0     | 0         | 0    | -0    | 0         | 0    | 0        | -0     |
| #170                           |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                           | 0          | -153                     | -564  | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -717   |
| Added                          | 0          | 153                      | 564   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 717    |
| Total                          | 0          | -0                       | -0    | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -0     |
| #177                           |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                           | 0          | 0                        | 0     | 0          | -351 | 0     | 0         | -129 | 0     | 0         | 0    | 0        | -480   |
| Added                          | 0          | 0                        | 0     | 0          | 351  | 0     | 0         | 129  | 0     | 0         | 0    | 0        | 481    |
| Total                          | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 1      |
| #178                           |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                           | 0          | -266                     | 0     | 0          | 0    | 0     | -104      | -25  | 0     | 0         | 0    | 0        | -395   |
| Added                          | 0          | 266                      | 0     | 0          | 0    | 0     | 104       | 25   | 0     | 0         | 0    | 0        | 395    |
| Total                          | 0          | -0                       | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 0      |
| #182                           |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                           | 0          | -370                     | 0     | 0          | 0    | -475  | 0         | 0    | 0     | 0         | 0    | 0        | -845   |
| Added                          | 0          | 370                      | 0     | 0          | 0    | 475   | 0         | 0    | 0     | 0         | 0    | 0        | 845    |
| Total                          | 0          | -0                       | 0     | 0          | 0    | -0    | 0         | 0    | 0     | 0         | 0    | 0        | -0     |
| #201                           |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                           | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | -932 | 0     | 0         | 0    | 0        | -932   |
| Added                          | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 932  | 0     | 0         | 0    | 0        | 932    |
| Total                          | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 0      |
| #204                           |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                           | 0          | 0                        | 0     | -352       | -580 | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -932   |
| Added                          | 0          | 0                        | 0     | 352        | 580  | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 932    |
| Total                          | 0          | 0                        | 0     | 0          | -0   | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 0      |
| #207                           |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                           | 0          | -714                     | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | -396     | -1110  |
| Added                          | 0          | 714                      | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 396      | 1110   |
| Total                          | 0          | -0                       | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -0     |
| #214                           |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                           | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -546      | -564 | 0        | -1110  |
| Added                          | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 546       | 564  | 0        | 1110   |
| Total                          | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -0        | -0   | 0        | -0     |

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| Volume Type | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total Volume |
|-------------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------------|
|             | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |              |
| #217        |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base        | 0          | 0    | 0     | 0          | -45  | 0     | 0         | -25  | 0     | 0         | 0    | 0     | -70          |
| Added       | 0          | 0    | 0     | 0          | 45   | 0     | 0         | 25   | 0     | 0         | 0    | 0     | 71           |
| Total       | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1            |
| #218        |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base        | 0          | -21  | 0     | 0          | 0    | 0     | -21       | -4   | 0     | 0         | 0    | 0     | -46          |
| Added       | 0          | 21   | 0     | 0          | 0    | 0     | 21        | 4    | 0     | 0         | 0    | 0     | 47           |
| Total       | 0          | 0    | 0     | 0          | 0    | 0     | 0         | -0   | 0     | 0         | 0    | 0     | 1            |
| #219        |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base        | 0          | -43  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -20  | 0     | -63          |
| Added       | 0          | 43   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 20   | 0     | 63           |
| Total       | 0          | -0   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0            |
| #220        |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base        | 0          | 0    | 0     | 0          | -45  | -34   | 0         | 0    | 0     | 0         | -20  | 0     | -99          |
| Added       | 0          | 0    | 0     | 0          | 45   | 34    | 0         | 0    | 0     | 0         | 20   | 0     | 100          |
| Total       | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1            |
| #225        |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base        | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -396 | -20   | -416         |
| Added       | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 396  | 20    | 416          |
| Total       | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0            |
| #226        |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base        | 0          | 0    | 0     | -4         | 0    | 0     | 0         | -352 | 0     | 0         | 0    | 0     | -356         |
| Added       | 0          | 0    | 0     | 4          | 0    | 0     | 0         | 352  | 0     | 0         | 0    | 0     | 356          |
| Total       | 0          | 0    | 0     | -0         | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0            |
| #244        |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base        | 0          | 0    | 0     | 0          | 0    | -288  | -312      | -47  | 0     | 0         | -45  | 0     | -692         |
| Added       | 0          | 0    | 0     | 0          | 0    | 288   | 312       | 47   | 0     | 0         | 45   | 0     | 692          |
| Total       | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -0   | 0     | 0            |

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AM Peak Hour

| Link Volume Report<br>AM Peak Hour |         |      |       |         |     |       |         |     |       |         |     |       |              |
|------------------------------------|---------|------|-------|---------|-----|-------|---------|-----|-------|---------|-----|-------|--------------|
| Volume Type                        | NB Link |      |       | SB Link |     |       | EB Link |     |       | WB Link |     |       | Total Volume |
|                                    | In      | Out  | Total | In      | Out | Total | In      | Out | Total | In      | Out | Total |              |
| #3 Maritime/Burma                  |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base                               | 83      | 292  | 375   | 287     | 78  | 365   | 5       | 5   | 10    | 0       | 0   | 0     | 750          |
| Added                              | 262     | 338  | 600   | 551     | 406 | 956   | 144     | 212 | 356   | 0       | 0   | 0     | 1912         |
| Total                              | 345     | 630  | 975   | 838     | 484 | 1321  | 149     | 217 | 366   | 0       | 0   | 0     | 2662         |
| #4 Maritime/14th                   |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base                               | 130     | 283  | 413   | 364     | 178 | 542   | 0       | 0   | 0     | 109     | 142 | 251   | 1206         |
| Added                              | 466     | 492  | 958   | 338     | 262 | 600   | 405     | 456 | 861   | 0       | 0   | 0     | 2419         |
| Total                              | 596     | 775  | 1371  | 702     | 440 | 1142  | 405     | 456 | 861   | 109     | 142 | 251   | 3625         |
| #5 Maritime/7th Ext.               |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base                               | 159     | 37   | 196   | 334     | 69  | 403   | 106     | 493 | 599   | 0       | 0   | 0     | 1198         |
| Added                              | 491     | 493  | 983   | 492     | 466 | 958   | 5       | 29  | 34    | 0       | 0   | 0     | 1976         |
| Total                              | 650     | 530  | 1179  | 826     | 535 | 1361  | 111     | 522 | 633   | 0       | 0   | 0     | 3174         |
| #6 7th/7th Ext.                    |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base                               | 15      | 26   | 41    | 0       | 54  | 54    | 0       | 15  | 15    | 80      | 0   | 80    | 190          |
| Added                              | 198     | 223  | 421   | 493     | 491 | 983   | 479     | 580 | 1059  | 847     | 723 | 1571  | 4034         |
| Total                              | 213     | 249  | 462   | 493     | 545 | 1037  | 479     | 595 | 1074  | 927     | 723 | 1651  | 4224         |
| #7 Middle Harbor/Gate 2            |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base                               | 98      | 247  | 345   | 0       | 0   | 0     | 39      | 391 | 430   | 546     | 45  | 591   | 1366         |
| Added                              | 30      | 167  | 197   | 0       | 0   | 0     | 217     | 219 | 436   | 374     | 235 | 610   | 1242         |
| Total                              | 128     | 414  | 542   | 0       | 0   | 0     | 256     | 610 | 866   | 920     | 280 | 1201  | 2608         |
| #8 Adeline St./ 3rd St.            |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base                               | 39      | 79   | 118   | 52      | 64  | 116   | 43      | 93  | 136   | 165     | 63  | 228   | 598          |
| Added                              | 707     | 950  | 1657  | 950     | 707 | 1657  | 0       | 0   | 0     | 0       | 0   | 0     | 3315         |
| Total                              | 746     | 1029 | 1775  | 1002    | 771 | 1773  | 43      | 93  | 136   | 165     | 63  | 228   | 3913         |
| #12 Maritime/W.Grand/I-880 Ramps   |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base                               | 33      | 466  | 499   | 91      | 90  | 181   | 880     | 347 | 1227  | 309     | 410 | 719   | 2626         |
| Added                              | 406     | 551  | 956   | 0       | 0   | 0     | 403     | 271 | 674   | 147     | 134 | 282   | 1912         |
| Total                              | 439     | 1017 | 1455  | 91      | 90  | 181   | 1283    | 618 | 1901  | 456     | 544 | 1001  | 4538         |
| #13 Adeline/5th/I-880 SB Ramps     |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base                               | 0       | 109  | 109   | 346     | 620 | 966   | 307     | 334 | 641   | 533     | 123 | 656   | 2372         |
| Added                              | 707     | 950  | 1657  | 177     | 117 | 295   | 227     | 153 | 380   | 546     | 437 | 983   | 3315         |
| Total                              | 707     | 1059 | 1766  | 523     | 737 | 1261  | 534     | 487 | 1021  | 1079    | 560 | 1639  | 5687         |
| #14 Union/5th/I-880 NB Ramps       |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base                               | 220     | 372  | 592   | 185     | 314 | 499   | 80      | 62  | 142   | 351     | 88  | 439   | 1672         |
| Added                              | 227     | 153  | 380   | 0       | 0   | 0     | 0       | 0   | 0     | 153     | 227 | 380   | 759          |
| Total                              | 447     | 525  | 972   | 185     | 314 | 499   | 80      | 62  | 142   | 504     | 315 | 819   | 2431         |

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|------------------------------------|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|----------|-------|-----------------|
| FISCO/Port Vision 2000 EIS/EIR     |         |                          |       |         |      |       |         |      |       |         |          |       |                 |
| No Project Alternative             |         |                          |       |         |      |       |         |      |       |         |          |       |                 |
| AM Peak Hour                       |         |                          |       |         |      |       |         |      |       |         |          |       |                 |
| Volume<br>Type                     | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |          |       | Total<br>Volume |
|                                    | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out      | Total |                 |
| #15 7th/I-880 NB Ramp/Frontage Rd. |         |                          |       |         |      |       |         |      |       |         |          |       |                 |
| Base                               | 569     | 0                        | 569   | 111     | 549  | 660   | 16      | 156  | 172   | 63      | 54       | 117   | 1518            |
| Added                              | 564     | 0                        | 564   | 275     | 227  | 502   | 229     | 847  | 1076  | 8       | 2        | 10    | 2152            |
| Total                              | 1133    | 0                        | 1133  | 386     | 776  | 1162  | 245     | 1003 | 1248  | 71      | 56       | 127   | 3670            |
| #16 7th/I-880 SB Ramp              |         |                          |       |         |      |       |         |      |       |         |          |       |                 |
| Base                               | 0       | 65                       | 65    | 0       | 0    | 0     | 0       | 0    | 0     | 65      | 0        | 65    | 130             |
| Added                              | 0       | 495                      | 495   | 0       | 0    | 0     | 723     | 847  | 1571  | 847     | 229      | 1076  | 3141            |
| Total                              | 0       | 560                      | 560   | 0       | 0    | 0     | 723     | 847  | 1571  | 912     | 229      | 1141  | 3271            |
| #17 14th/I-880 Frontage Rd.        |         |                          |       |         |      |       |         |      |       |         |          |       |                 |
| Base                               | 89      | 140                      | 229   | 30      | 6    | 36    | 0       | 0    | 0     | 146     | 119      | 265   | 530             |
| Added                              | 227     | 275                      | 502   | 275     | 227  | 502   | 0       | 0    | 0     | 0       | 0        | 0     | 1004            |
| Total                              | 316     | 415                      | 731   | 305     | 233  | 538   | 0       | 0    | 0     | 146     | 119      | 265   | 1534            |
| #18 W.Grand/I-880 Frontage Rd.     |         |                          |       |         |      |       |         |      |       |         |          |       |                 |
| Base                               | 9       | 60                       | 69    | 732     | 514  | 1246  | 311     | 167  | 478   | 601     | 912      | 1513  | 3306            |
| Added                              | 227     | 275                      | 502   | 185     | 151  | 336   | 134     | 147  | 282   | 237     | 210      | 448   | 1567            |
| Total                              | 236     | 335                      | 571   | 917     | 665  | 1582  | 445     | 314  | 760   | 838     | 1122     | 1961  | 4873            |
| #138                               |         |                          |       |         |      |       |         |      |       |         |          |       |                 |
| Base                               | -156    | -173                     | -329  | -199    | -180 | -379  | -24     | -26  | -50   | 0       | 0        | 0     | -758            |
| Added                              | 156     | 173                      | 329   | 199     | 180  | 379   | 24      | 26   | 50    | 0       | 0        | 0     | 757             |
| Total                              | 0       | 0                        | 0     | -0      | 0    | -0    | 0       | -0   | -0    | 0       | 0        | 0     | -1              |
| #158                               |         |                          |       |         |      |       |         |      |       |         |          |       |                 |
| Base                               | -309    | 0                        | -309  | 0       | -180 | -180  | 0       | 0    | 0     | 0       | -129     | -129  | -618            |
| Added                              | 309     | 0                        | 309   | 0       | 180  | 180   | 0       | 0    | 0     | 0       | 129      | 129   | 619             |
| Total                              | 0       | 0                        | 0     | 0       | -0   | -0    | 0       | 0    | 0     | 0       | 0        | 0     | 1               |
| #159                               |         |                          |       |         |      |       |         |      |       |         |          |       |                 |
| Base                               | -180    | 0                        | -180  | 0       | 0    | 0     | 0       | -358 | -358  | -178    | 0        | -178  | -716            |
| Added                              | 180     | 0                        | 180   | 0       | 0    | 0     | 0       | 358  | 358   | 178     | 0        | 178   | 716             |
| Total                              | -0      | 0                        | -0    | 0       | 0    | 0     | 0       | -0   | -0    | 0       | 0        | 0     | -0              |
| #160                               |         |                          |       |         |      |       |         |      |       |         |          |       |                 |
| Base                               | 0       | -178                     | -178  | 0       | 0    | 0     | 0       | -180 | -180  | -358    | 0        | -358  | -716            |
| Added                              | 0       | 178                      | 178   | 0       | 0    | 0     | 0       | 180  | 180   | 358     | 0        | 358   | 716             |
| Total                              | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | -0   | -0    | -0      | 0        | -0    | -0              |
| #161                               |         |                          |       |         |      |       |         |      |       |         |          |       |                 |
| Base                               | 0       | -464                     | -464  | -178    | 0    | -178  | -286    | 0    | -286  | 0       | 0        | 0     | -928            |
| Added                              | 0       | 464                      | 464   | 178     | 0    | 178   | 286     | 0    | 286   | 0       | 0        | 0     | 928             |
| Total                              | 0       | -0                       | -0    | 0       | 0    | 0     | -0      | 0    | -0    | 0       | 0        | 0     | -0              |

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|--------------------------------|---------|--------------------------|-------|---------|-------|-------|---------|------|-------|----------|------|-------|--------------|
| FISCO/Port Vision 2000 EIS/EIR |         |                          |       |         |       |       |         |      |       |          |      |       |              |
| No Project Alternative         |         |                          |       |         |       |       |         |      |       |          |      |       |              |
| AM Peak Hour                   |         |                          |       |         |       |       |         |      |       |          |      |       |              |
| Volume Type                    | NB Link |                          |       | SB Link |       |       | EB Link |      |       | WB Link  |      |       | Total Volume |
|                                | In      | Out                      | Total | In      | Out   | Total | In      | Out  | Total | In       | Out  | Total |              |
| #165                           |         |                          |       |         |       |       |         |      |       |          |      |       |              |
| Base                           | 0       | -722                     | -722  | -227    | 0     | -227  | -495    | 0    | -495  | 0        | 0    | 0     | -1444        |
| Added                          | 0       | 722                      | 722   | 227     | 0     | 227   | 495     | 0    | 495   | 0        | 0    | 0     | 1444         |
| Total                          | 0       | -0                       | -0    | -0      | 0     | -0    | -0      | 0    | -0    | 0        | 0    | 0     | -0           |
| #170                           |         |                          |       |         |       |       |         |      |       |          |      |       |              |
| Base                           | -717    | 0                        | -717  | 0       | -153  | -153  | 0       | 0    | 0     | 0        | -564 | -564  | -1434        |
| Added                          | 717     | 0                        | 717   | 0       | 153   | 153   | 0       | 0    | 0     | 0        | 564  | 564   | 1433         |
| Total                          | -0      | 0                        | -0    | 0       | -0    | -0    | 0       | 0    | 0     | 0        | -0   | -0    | -1           |
| #177                           |         |                          |       |         |       |       |         |      |       |          |      |       |              |
| Base                           | 0       | -351                     | -351  | -351    | 0     | -351  | -129    | 0    | -129  | 0        | -129 | -129  | -960         |
| Added                          | 0       | 351                      | 351   | 351     | 0     | 351   | 129     | 0    | 129   | 0        | 129  | 129   | 961          |
| Total                          | 0       | 0                        | 0     | 0       | 0     | 0     | 0       | 0    | 0     | 0        | 0    | 0     | 1            |
| #178                           |         |                          |       |         |       |       |         |      |       |          |      |       |              |
| Base                           | -266    | 0                        | -266  | 0       | -370  | -370  | -129    | 0    | -129  | 0        | -25  | -25   | -790         |
| Added                          | 266     | 0                        | 266   | 0       | 370   | 370   | 129     | 0    | 129   | 0        | 25   | 25    | 791          |
| Total                          | -0      | 0                        | -0    | 0       | -0    | -0    | 0       | 0    | 0     | 0        | 0    | 0     | 1            |
| #182                           |         |                          |       |         |       |       |         |      |       |          |      |       |              |
| Base                           | -370    | 0                        | -370  | -475    | -370  | -845  | 0       | -475 | -475  | 0        | 0    | 0     | -1690        |
| Added                          | 370     | 0                        | 370   | 475     | 370   | 845   | 0       | 475  | 475   | 0        | 0    | 0     | 1689         |
| Total                          | -0      | 0                        | -0    | -0      | -0    | -0    | 0       | -0   | -0    | 0        | 0    | 0     | -1           |
| #201                           |         |                          |       |         |       |       |         |      |       |          |      |       |              |
| Base                           | 0       | 0                        | 0     | 0       | 0     | 0     | -932    | 0    | -932  | 0        | -932 | -932  | -1864        |
| Added                          | 0       | 0                        | 0     | 0       | 0     | 0     | 932     | 0    | 932   | 0        | 932  | 932   | 1864         |
| Total                          | 0       | 0                        | 0     | 0       | 0     | 0     | 0       | 0    | 0     | 0        | 0    | 0     | 0            |
| #204                           |         |                          |       |         |       |       |         |      |       |          |      |       |              |
| Base                           | 0       | -580                     | -580  | -932    | 0     | -932  | 0       | 0    | 0     | 0        | -352 | -352  | -1864        |
| Added                          | 0       | 580                      | 580   | 932     | 0     | 932   | 0       | 0    | 0     | 0        | 352  | 352   | 1864         |
| Total                          | 0       | -0                       | -0    | 0       | 0     | 0     | 0       | 0    | 0     | 0        | 0    | 0     | 0            |
| #207                           |         |                          |       |         |       |       |         |      |       |          |      |       |              |
| Base                           | -714    | 0                        | -714  | 0       | -1110 | -1110 | 0       | 0    | 0     | -396     | 0    | -396  | -222         |
| Added                          | 714     | 0                        | 714   | 0       | 1110  | 1110  | 0       | 0    | 0     | 396      | 0    | 396   | 2220         |
| Total                          | -0      | 0                        | -0    | 0       | -0    | -0    | 0       | 0    | 0     | 0        | 0    | 0     | -0           |
| #214                           |         |                          |       |         |       |       |         |      |       |          |      |       |              |
| Base                           | 0       | -546                     | -546  | 0       | 0     | 0     | 0       | -564 | -564  | -1110    | 0    | -1110 | -2220        |
| Added                          | 0       | 546                      | 546   | 0       | 0     | 0     | 0       | 564  | 564   | 1110     | 0    | 1110  | 2220         |
| Total                          | 0       | -0                       | -0    | 0       | 0     | 0     | 0       | -0   | -0    | -0       | 0    | -0    | -0           |



Table J.7-1 (Continued)

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| Volume Type | NB Link |     |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total Volume |
|-------------|---------|-----|-------|---------|------|-------|---------|------|-------|---------|------|-------|--------------|
|             | In      | Out | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total |              |
| #217        |         |     |       |         |      |       |         |      |       |         |      |       |              |
| Base        | 0       | -45 | -45   | -45     | 0    | -45   | -25     | 0    | -25   | 0       | -25  | -25   | -140         |
| Added       | 0       | 45  | 45    | 45      | 0    | 45    | 25      | 0    | 25    | 0       | 25   | 25    | 141          |
| Total       | 0       | 0   | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 1            |
| #218        |         |     |       |         |      |       |         |      |       |         |      |       |              |
| Base        | -21     | 0   | -21   | 0       | -42  | -42   | -25     | 0    | -25   | 0       | -4   | -4    | -92          |
| Added       | 21      | 0   | 21    | 0       | 43   | 43    | 25      | 0    | 25    | 0       | 4    | 4     | 93           |
| Total       | 0       | 0   | 0     | 0       | 1    | 1     | 0       | 0    | 0     | 0       | -0   | -0    | 1            |
| #219        |         |     |       |         |      |       |         |      |       |         |      |       |              |
| Base        | -43     | 0   | -43   | 0       | -43  | -43   | 0       | -20  | -20   | -20     | 0    | -20   | -126         |
| Added       | 43      | 0   | 43    | 0       | 43   | 43    | 0       | 20   | 20    | 20      | 0    | 20    | 126          |
| Total       | -0      | 0   | -0    | 0       | -0   | -0    | 0       | 0    | 0     | 0       | 0    | 0     | 0            |
| #220        |         |     |       |         |      |       |         |      |       |         |      |       |              |
| Base        | 0       | -45 | -45   | -79     | 0    | -79   | 0       | -54  | -54   | -20     | 0    | -20   | -198         |
| Added       | 0       | 45  | 45    | 79      | 0    | 79    | 0       | 54   | 54    | 20      | 0    | 20    | 199          |
| Total       | 0       | 0   | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 1            |
| #225        |         |     |       |         |      |       |         |      |       |         |      |       |              |
| Base        | 0       | 0   | 0     | 0       | -20  | -20   | 0       | -396 | -396  | -416    | 0    | -416  | -832         |
| Added       | 0       | 0   | 0     | 0       | 20   | 20    | 0       | 396  | 396   | 416     | 0    | 416   | 833          |
| Total       | 0       | 0   | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 1            |
| #226        |         |     |       |         |      |       |         |      |       |         |      |       |              |
| Base        | 0       | 0   | 0     | -4      | 0    | -4    | -352    | 0    | -352  | 0       | -356 | -356  | -712         |
| Added       | 0       | 0   | 0     | 4       | 0    | 4     | 352     | 0    | 352   | 0       | 356  | 356   | 713          |
| Total       | 0       | 0   | 0     | -0      | 0    | -0    | 0       | 0    | 0     | 0       | 0    | 0     | 1            |
| #244        |         |     |       |         |      |       |         |      |       |         |      |       |              |
| Base        | 0       | 0   | 0     | -288    | -312 | -600  | -359    | -333 | -692  | -45     | -47  | -92   | -1384        |
| Added       | 0       | 0   | 0     | 288     | 312  | 600   | 359     | 333  | 692   | 45      | 47   | 92    | 1384         |
| Total       | 0       | 0   | 0     | 0       | 0    | 0     | 0       | -0   | 0     | -0      | 0    | 0     | 0            |

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| Impact Analysis Report<br>Level Of Service |      |      |       |        |      |       |        |        |     |  |  |  |  |
|--|------|------|-------|--------|------|-------|--------|--------|-----|--|--|--|--|
| Intersection                               | Base |      |       | Future |      |       | Change |        |     |  |  |  |  |
|  | LOS  | Veh  | C     | LOS    | Veh  | C     |        |        |     |  |  |  |  |
| # 3 Maritime/Burma                         | B    | 6.3  | 0.089 | B      | 8.9  | 0.265 | +      | 2.597  | D/V |  |  |  |  |
| # 4 Maritime/14th                          | C    | 15.0 | 0.161 | C      | 19.0 | 0.707 | +      | 3.939  | D/V |  |  |  |  |
| # 5 Maritime/7th Ext.                      | B    | 12.8 | 0.137 | B      | 7.6  | 0.417 | -      | 5.232  | D/V |  |  |  |  |
| # 6 7th/7th Ext.                           | B    | 12.3 | 0.009 | C      | 17.5 | 0.390 | +      | 5.244  | D/V |  |  |  |  |
| # 7 Middle Harbor/Gate 2                   | B    | 6.6  | 0.167 | B      | 14.4 | 0.619 | +      | 7.816  | D/V |  |  |  |  |
| # 8 Adeline St./ 3rd St.                   | B    | 8.7  | 0.064 | E      | 46.9 | 0.615 | +      | 38.229 | D/V |  |  |  |  |
| # 12 Maritime/W.Grand/I-880 Ramps          | B    | 12.0 | 0.242 | C      | 17.6 | 0.528 | +      | 5.690  | D/V |  |  |  |  |
| # 13 Adeline/5th/I-880 SB Ramps            | C    | 18.3 | 0.236 | C      | 21.4 | 0.752 | +      | 3.099  | D/V |  |  |  |  |
| # 14 Union/5th/I-880 NB Ramps              | C    | 16.4 | 0.104 | C      | 17.3 | 0.151 | +      | 0.940  | D/V |  |  |  |  |
| # 15 7th/I-880 NB Ramp/Frontage Rd.        | B    | 10.9 | 0.206 | C      | 23.3 | 0.509 | +      | 12.387 | D/V |  |  |  |  |
| # 16 7th/I-880 SB Ramp                     | A    | 0.1  | 0.020 | A      | 1.6  | 0.342 | +      | 1.472  | D/V |  |  |  |  |
| # 17 14th/I-880 Frontage Rd.               | A    | 2.8  | 0.000 | C      | 2.5  | 0.000 | +      | 0.000  | V/C |  |  |  |  |
| # 18 W.Grand/I-880 Frontage Rd.            | C    | 19.9 | 0.237 | C      | 20.6 | 0.434 | +      | 0.733  | D/V |  |  |  |  |

## Table J.7-1 (Continued)

|  |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
|--|--------------------------|--------------------------|------|-------------|------|------|------------|------|------|------------|------|------|----------|---|---|
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| FISCO/Port Vision 2000 EIS/EIR                         |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| No Project Alternative                                 |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| AM Peak Hour   |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| Level Of Service Computation Report                    |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| Intersection #3 Maritime/Burma                         |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      | 0.265      |      |      |          |   |   |
| Loss Time (sec):                                       | 8 (Y+R = 4 sec)          | Average Delay (sec/veh): |      |             |      |      |            |      |      | 8.9        |      |      |          |   |   |
| Optimal Cycle:   | 58                       | Level Of Service:        |      |             |      |      |            |      |      | B          |      |      |          |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound |      |      | West Bound |      |      |          |   |   |
| Movement:  | L                        | -                        | T    | -           | R    | L    | -          | T    | -    | R          | L    | -    | T        | - | R |
| Control:   | Protected                |                          |      | Protected   |      |      | Protected  |      |      | Protected  |      |      |          |   |   |
| Rights:  | Include                  |                          |      | Include     |      |      | Include    |      |      | Include    |      |      |          |   |   |
| Min. Green:  | 10                       | 20                       | 20   | 10          | 20   | 20   | 10         | 20   | 20   | 0          | 0    | 0    |          |   |   |
| Lanes:   | 1                        | 0                        | 1    | 1           | 0    | 1    | 0          | 1    | 1    | 0          | 0    | 0    | 0        | 0 | 0 |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| Volume Module:   |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| Base Vol:  | 5                        | 78                       | 0    | 0           | 287  | 0    | 0          | 0    | 5    | 0          | 0    | 0    |          |   |   |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |   |   |
| Initial Bse:   | 5                        | 78                       | 0    | 0           | 287  | 0    | 0          | 0    | 5    | 0          | 0    | 0    |          |   |   |
| Added Vol:   | 0                        | 262                      | 0    | 0           | 338  | 212  | 144        | 0    | 0    | 0          | 0    | 0    |          |   |   |
| PasserByVol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |          |   |   |
| Initial Fut:   | 5                        | 340                      | 0    | 0           | 625  | 212  | 144        | 0    | 5    | 0          | 0    | 0    |          |   |   |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |   |   |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |   |   |
| PHF Volume:  | 5                        | 340                      | 0    | 0           | 625  | 212  | 144        | 0    | 5    | 0          | 0    | 0    |          |   |   |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |          |   |   |
| Reduced Vol:   | 5                        | 340                      | 0    | 0           | 625  | 212  | 144        | 0    | 5    | 0          | 0    | 0    |          |   |   |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |   |   |
| MLF Adj:   | 1.00                     | 1.05                     | 1.05 | 1.00        | 1.05 | 1.05 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |   |   |
| Final Vol.:  | 5                        | 357                      | 0    | 0           | 656  | 223  | 144        | 0    | 5    | 0          | 0    | 0    |          |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| Saturation Flow Module:                                |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900 |          |   |   |
| Adjustment:  | 0.95                     | 1.00                     | 1.00 | 1.00        | 0.96 | 0.96 | 0.95       | 1.00 | 0.85 | 1.00       | 1.00 | 1.00 |          |   |   |
| Lanes:   | 1.00                     | 2.00                     | 0.00 | 1.00        | 1.49 | 0.51 | 1.00       | 0.00 | 1.00 | 0.00       | 0.00 | 0.00 |          |   |   |
| Final Sat.:  | 1805                     | 3800                     | 0    | 1900        | 2723 | 925  | 1805       | 0    | 1615 | 0          | 0    | 0    |          |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| Capacity Analysis Module:                              |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| Vol/Sat:   | 0.00                     | 0.09                     | 0.00 | 0.00        | 0.24 | 0.24 | 0.08       | 0.00 | 0.00 | 0.00       | 0.00 | 0.00 |          |   |   |
| Crit Moves:  | ****                     |                          |      |             | **** |      |            | **** |      |            |      |      |          |   |   |
| Green/Cycle:   | 0.10                     | 0.48                     | 0.00 | 0.00        | 0.62 | 0.62 | 0.20       | 0.00 | 0.20 | 0.00       | 0.00 | 0.00 |          |   |   |
| Volume/Cap:  | 0.03                     | 0.20                     | 0.00 | 0.00        | 0.39 | 0.39 | 0.40       | 0.00 | 0.02 | 0.00       | 0.00 | 0.00 |          |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| Level Of Service Module:                               |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |
| Delay/Veh:   | 26.2                     | 9.6                      | 0.0  | 0.0         | 6.2  | 6.2  | 22.9       | 0.0  | 20.7 | 0.0        | 0.0  | 0.0  |          |   |   |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |   |   |
| AdjDel/Veh:  | 26.2                     | 9.6                      | 0.0  | 0.0         | 6.2  | 6.2  | 22.9       | 0.0  | 20.7 | 0.0        | 0.0  | 0.0  |          |   |   |
| Queue:   | 0                        | 6                        | 0    | 0           | 9    | 3    | 4          | 0    | 0    | 0          | 0    | 0    |          |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |      |          |   |   |

|  |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
|--|--------------------------|------|------|--------------------------|------|------|------------|------|------|------------|------|-------|----------|
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| FISCO/Port Vision 2000 EIS/EIR                         |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| No Project Alternative                                 |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| AM Peak Hour   |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Level Of Service Computation Report                    |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Intersection #4 Maritime/14th                          |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Cycle (sec):   | 100                      |      |      | Critical Vol./Cap. (X):  |      |      |            |      |      |            |      | 0.707 |          |
| Loss Time (sec):                                       | 8 (Y+R = 4 sec)          |      |      | Average Delay (sec/veh): |      |      |            |      |      |            |      | 19.0  |          |
| Optimal Cycle:   | 58                       |      |      | Level Of Service:        |      |      |            |      |      |            |      | C     |          |
| Approach:  | North Bound              |      |      | South Bound              |      |      | East Bound |      |      | West Bound |      |       |          |
| Movement:  | L                        | T    | R    | L                        | T    | R    | L          | T    | R    | L          | T    | R     |          |
| Control:   | Protected                |      |      | Protected                |      |      | Permitted  |      |      | Permitted  |      |       |          |
| Rights:  | Include                  |      |      | Include                  |      |      | Ovl        |      |      | Include    |      |       |          |
| Min. Green:  | 10                       | 20   | 20   | 10                       | 20   | 20   | 10         | 20   | 20   | 10         | 20   | 20    |          |
| Lanes:   | 1                        | 0    | 1    | 1                        | 0    |      | 0          | 0    | 1    | 0          | 0    | 1     | 0        |
| Volume Module:   |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Base Vol:  | 0                        | 91   | 39   | 103                      | 261  | 0    | 0          | 0    | 0    | 22         | 0    | 87    |          |
| Growth Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| Initial Bse:   | 0                        | 91   | 39   | 103                      | 261  | 0    | 0          | 0    | 0    | 22         | 0    | 87    |          |
| Added Vol:   | 319                      | 147  | 0    | 0                        | 202  | 136  | 115        | 0    | 290  | 0          | 0    | 0     |          |
| PasserByVol:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |          |
| Initial Fut:   | 319                      | 238  | 39   | 103                      | 463  | 136  | 115        | 0    | 290  | 22         | 0    | 87    |          |
| User Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| PHF Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| PHF Volume:  | 319                      | 238  | 39   | 103                      | 463  | 136  | 115        | 0    | 290  | 22         | 0    | 87    |          |
| Reduct Vol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |          |
| Reduced Vol:   | 319                      | 238  | 39   | 103                      | 463  | 136  | 115        | 0    | 290  | 22         | 0    | 87    |          |
| PCE Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| MLF Adj:   | 1.00                     | 1.05 | 1.05 | 1.00                     | 1.05 | 1.05 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| Final Vol.:  | 319                      | 250  | 41   | 103                      | 486  | 143  | 115        | 0    | 290  | 22         | 0    | 87    |          |
| Saturation Flow Module:                                |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Sat/Lane:  | 1900                     | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900  |          |
| Adjustment:  | 0.95                     | 0.98 | 0.98 | 0.95                     | 0.97 | 0.97 | 0.70       | 1.00 | 0.70 | 0.62       | 1.00 | 0.85  |          |
| Lanes:   | 1.00                     | 1.72 | 0.28 | 1.00                     | 1.55 | 0.45 | 0.28       | 0.00 | 0.72 | 1.00       | 0.00 | 1.00  |          |
| Final Sat.:  | 1805                     | 3199 | 525  | 1805                     | 2848 | 838  | 380        | 0    | 958  | 1178       | 0    | 1615  |          |
| Capacity Analysis Module:                              |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Vol/Sat:   | 0.18                     | 0.08 | 0.08 | 0.06                     | 0.17 | 0.17 | 0.30       | 0.00 | 0.30 | 0.02       | 0.00 | 0.05  |          |
| Crit Moves:  | ***                      |      |      | ****                     |      |      | ****       |      |      |            |      |       |          |
| Green/Cycle:   | 0.25                     | 0.33 | 0.33 | 0.16                     | 0.24 | 0.24 | 0.43       | 0.00 | 0.68 | 0.43       | 0.00 | 0.43  |          |
| Volume/Cap:  | 0.71                     | 0.24 | 0.24 | 0.35                     | 0.71 | 0.71 | 0.71       | 0.00 | 0.45 | 0.04       | 0.00 | 0.13  |          |
| Level Of Service Module:                               |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Delay/Veh:   | 25.5                     | 15.9 | 15.9 | 24.2                     | 24.2 | 24.2 | 17.9       | 0.0  | 5.0  | 10.8       | 0.0  | 11.2  |          |
| User DelAdj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| AdjDel/Veh:  | 25.5                     | 15.9 | 15.9 | 24.2                     | 24.2 | 24.2 | 17.9       | 0.0  | 5.0  | 10.8       | 0.0  | 11.2  |          |
| Queue:   | 9                        | 5    | 1    | 3                        | 13   | 4    | 3          | 0    | 4    | 0          | 0    | 1     |          |

Table J.7-1 (Continued)

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AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #5 Maritime/7th Ext.  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.417  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 7.6  
Optimal Cycle: 48 Level Of Service: B

| Approach:   | North Bound |    |    |   | South Bound |    |    |   | East Bound |   |    |   | West Bound |   |   |  |
|-------------|-------------|----|----|---|-------------|----|----|---|------------|---|----|---|------------|---|---|--|
| Movement:   | L           | T  | R  |   | L           | T  | R  |   | L          | T | R  |   | L          | T | R |  |
| Control:    | Protected   |    |    |   | Protected   |    |    |   | Protected  |   |    |   | Protected  |   |   |  |
| Rights:     | Include     |    |    |   | Ovl         |    |    |   | Ovl        |   |    |   | Include    |   |   |  |
| Min. Green: | 10          | 20 | 20 |   | 0           | 20 | 20 |   | 10         | 0 | 20 |   | 0          | 0 | 0 |  |
| Lanes:      | 1           | 0  | 1  | 1 | 0           | 0  | 1  | 1 | 1          | 0 | 0  | 0 | 1          | 0 | 0 |  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 159  | 0    | 0    | 0    | 0    | 334  | 69   | 0    | 37   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 159  | 0    | 0    | 0    | 0    | 334  | 69   | 0    | 37   | 0    | 0    | 0    |
| Added Vol:   | 25   | 466  | 0    | 0    | 488  | 4    | 1    | 0    | 5    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 184  | 466  | 0    | 0    | 488  | 338  | 70   | 0    | 42   | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 184  | 466  | 0    | 0    | 488  | 338  | 70   | 0    | 42   | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 184  | 466  | 0    | 0    | 488  | 338  | 70   | 0    | 42   | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 184  | 489  | 0    | 0    | 513  | 355  | 70   | 0    | 42   | 0    | 0    | 0    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 1.00 | 0.94 | 0.94 | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 2.00 | 0.00 | 0.00 | 1.18 | 0.82 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 1805 | 3800 | 0    | 0    | 2111 | 1461 | 1805 | 0    | 1615 | 0    | 0    | 0    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.10 | 0.13 | 0.00 | 0.00 | 0.24 | 0.24 | 0.04 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      |      | **** |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.24 | 0.82 | 0.00 | 0.00 | 0.58 | 0.68 | 0.10 | 0.00 | 0.34 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.42 | 0.16 | 0.00 | 0.00 | 0.42 | 0.36 | 0.39 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 21.0 | 1.2  | 0.0  | 0.0  | 7.7  | 4.5  | 27.9 | 0.0  | 14.3 | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 21.0 | 1.2  | 0.0  | 0.0  | 7.7  | 4.5  | 27.9 | 0.0  | 14.3 | 0.0  | 0.0  | 0.0  |
| Queue:       | 4    | 3    | 0    | 0    | 8    | 4    | 2    | 0    | 1    | 0    | 0    | 0    |

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## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #6 7th/7th Ext.  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.390  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 17.5  
Optimal Cycle: 68 Level Of Service: C

| Approach:   | North Bound |    |    |   | South Bound |    |    |   | East Bound |    |    |   | West Bound |    |    |  |
|-------------|-------------|----|----|---|-------------|----|----|---|------------|----|----|---|------------|----|----|--|
| Movement:   | L           | T  | R  |   | L           | T  | R  |   | L          | T  | R  |   | L          | T  | R  |  |
| Control:    | Protected   |    |    |   | Protected   |    |    |   | Protected  |    |    |   | Protected  |    |    |  |
| Rights:     | Include     |    |    |   | Include     |    |    |   | Include    |    |    |   | Ovl        |    |    |  |
| Min. Green: | 10          | 20 | 20 |   | 10          | 20 | 20 |   | 10         | 20 | 20 |   | 0          | 20 | 20 |  |
| Lanes:      | 1           | 0  | 1  | 1 | 1           | 0  | 1  | 1 | 1          | 0  | 2  | 1 | 1          | 0  | 2  |  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 15   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 26   | 0    | 54   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 15   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 26   | 0    | 54   |
| Added Vol:   | 23   | 118  | 57   | 267  | 137  | 88   | 55   | 399  | 25   | 61   | 469  | 318  |      |      |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 38   | 118  | 57   | 267  | 137  | 88   | 55   | 399  | 25   | 87   | 469  | 372  |      |      |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 38   | 118  | 57   | 267  | 137  | 88   | 55   | 399  | 25   | 87   | 469  | 372  |      |      |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 38   | 118  | 57   | 267  | 137  | 88   | 55   | 399  | 25   | 87   | 469  | 372  |      |      |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.10 | 1.10 | 1.00 | 1.05 | 1.00 | 1.00 |
| Final Vol.:  | 38   | 124  | 60   | 267  | 144  | 93   | 55   | 439  | 27   | 87   | 492  | 372  |      |      |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.95 | 0.95 | 0.95 | 0.94 | 0.94 | 0.95 | 0.99 | 0.99 | 0.95 | 1.00 | 0.85 |      |      |
| Lanes:      | 1.00 | 1.35 | 0.65 | 1.00 | 1.22 | 0.78 | 1.00 | 2.83 | 0.17 | 1.00 | 2.00 | 1.00 |      |      |
| Final Sat.: | 1805 | 2433 | 1177 | 1805 | 2170 | 1402 | 1805 | 5316 | 327  | 1805 | 3800 | 1615 |      |      |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|
| Vol/Sat:     | 0.02 | 0.05 | 0.05 | 0.15 | 0.07 | 0.07 | 0.03 | 0.08 | 0.08 | 0.05 | 0.13 | 0.23 |  |  |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |  |  |
| Green/Cycle: | 0.18 | 0.20 | 0.20 | 0.33 | 0.35 | 0.35 | 0.10 | 0.20 | 0.20 | 0.19 | 0.29 | 0.62 |  |  |
| Volume/Cap:  | 0.12 | 0.25 | 0.25 | 0.45 | 0.19 | 0.19 | 0.30 | 0.41 | 0.41 | 0.25 | 0.45 | 0.37 |  |  |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|
| Delay/Veh:   | 22.4 | 21.8 | 21.8 | 17.4 | 14.5 | 14.5 | 27.3 | 22.7 | 22.7 | 22.4 | 18.9 | 6.2  |  |  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |
| AdjDel/Veh:  | 22.4 | 21.8 | 21.8 | 17.4 | 14.5 | 14.5 | 27.3 | 22.7 | 22.7 | 22.4 | 18.9 | 6.2  |  |  |
| Queue:       | 1    | 3    | 1    | 6    | 3    | 2    | 1    | 11   | 1    | 2    | 11   | 5    |  |  |



## Table J.7-1 (Continued)

|  |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
|--|--|------------------|--------------------------|--------------------------|--|----------------|--|--|--|----------------|--|-------|-----------|----------------|--|--|--|
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| FISCO/Port Vision 2000 EIS/EIR                         |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| No Project Alternative                                 |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| AM Peak Hour   |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| Level Of Service Computation Report                    |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| 1994 HCM Operations Method (Future Volume Alternative) |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| *****  |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| Intersection #7 Middle Harbor/Gate 2                   |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| *****  |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| Cycle (sec):   |  | 100              |                          | Critical Vol./Cap. (X):  |  |                |  |  |  |                |  | 0.619 |           |                |  |  |  |
| Loss Time (sec):                                       |  | 0 (Y+R = .4 sec) |                          | Average Delay (sec/veh): |  |                |  |  |  |                |  | 14.4  |           |                |  |  |  |
| Optimal Cycle:   |  | 60               |                          | Level Of Service:        |  |                |  |  |  |                |  | B     |           |                |  |  |  |
| *****  |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| Approach:  |  | North Bound      |                          |                          |  | South Bound    |  |  |  | East Bound     |  |       |           | West Bound     |  |  |  |
| Movement:  |  | L - T - R        |                          |                          |  | L - T - R      |  |  |  | L - T - R      |  |       |           | L - T - R      |  |  |  |
| Control:   |  | Protected        |                          |                          |  | Protected      |  |  |  | Protected      |  |       |           | Protected      |  |  |  |
| Rights:  |  | Include          |                          |                          |  | Include        |  |  |  | Include        |  |       |           | Include        |  |  |  |
| Min. Green:  |  | 10 0 20          |                          |                          |  | 0 0 0          |  |  |  | 0 20 20        |  |       |           | 10 20 0        |  |  |  |
| Lanes:   |  | 1 0 0 0 1        |                          |                          |  | 0 0 0 0 0      |  |  |  | 0 0 1 1 0      |  |       |           | 1 0 2 0 0      |  |  |  |
| ----- ----- ----- -----                                |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| Volume Module:   |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| Base Vol:  |  | 53 0 45          |                          |                          |  | 0 0 0          |  |  |  | 0 0 39         |  |       |           | 208 338 0      |  |  |  |
| Growth Adj:  |  | 1.00 1.00 1.00   |                          |                          |  | 1.00 1.00 1.00 |  |  |  | 1.00 1.00 1.00 |  |       |           | 1.00 1.00 1.00 |  |  |  |
| Initial Bse:   |  | 53 0 45          |                          |                          |  | 0 0 0          |  |  |  | 0 0 39         |  |       |           | 208 338 0      |  |  |  |
| Added Vol:   |  | 2 0 28           |                          |                          |  | 0 0 0          |  |  |  | 0 207 10       |  |       |           | 157 217 0      |  |  |  |
| PasserByVol:   |  | 176 0 264        |                          |                          |  | 0 0 0          |  |  |  | 0 0 117        |  |       |           | 176 0 0        |  |  |  |
| Initial Fut:   |  | 231 0 337        |                          |                          |  | 0 0 0          |  |  |  | 0 207 166      |  |       |           | 541 555 0      |  |  |  |
| User Adj:  |  | 1.00 1.00 1.00   |                          |                          |  | 1.00 1.00 1.00 |  |  |  | 1.00 1.00 1.00 |  |       |           | 1.00 1.00 1.00 |  |  |  |
| PHF Adj:   |  | 1.00 1.00 1.00   |                          |                          |  | 1.00 1.00 1.00 |  |  |  | 1.00 1.00 1.00 |  |       |           | 1.00 1.00 1.00 |  |  |  |
| PHF Volume:  |  | 231 0 337        |                          |                          |  | 0 0 0          |  |  |  | 0 207 166      |  |       |           | 541 555 0      |  |  |  |
| Reduct Vol:  |  | 0 0 0            |                          |                          |  | 0 0 0          |  |  |  | 0 0 0          |  |       |           | 0 0 0          |  |  |  |
| Reduced Vol:   |  | 231 0 337        |                          |                          |  | 0 0 0          |  |  |  | 0 207 166      |  |       |           | 541 555 0      |  |  |  |
| PCE Adj:   |  | 1.00 1.00 1.00   |                          |                          |  | 1.00 1.00 1.00 |  |  |  | 1.00 1.00 1.00 |  |       |           | 1.00 1.00 1.00 |  |  |  |
| MLF Adj:   |  | 1.00 1.00 1.00   |                          |                          |  | 1.00 1.00 1.00 |  |  |  | 1.00 1.05 1.05 |  |       |           | 1.00 1.05 1.00 |  |  |  |
| Final Vol.:  |  | 231 0 337        |                          |                          |  | 0 0 0          |  |  |  | 0 218 174      |  |       |           | 541 583 0      |  |  |  |
| ----- ----- ----- -----                                |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| Saturation Flow Module:                                |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| Sat/Lane:  |  | 1900 1900 1900   |                          |                          |  | 1900 1900 1900 |  |  |  | 1900 1900 1900 |  |       |           | 1900 1900 1900 |  |  |  |
| Adjustment:  |  | 0.95 1.00 0.85   |                          |                          |  | 1.00 1.00 1.00 |  |  |  | 1.00 0.93 0.93 |  |       |           | 0.95 1.00 1.00 |  |  |  |
| Lanes:   |  | 1.00 0.00 1.00   |                          |                          |  | 0.00 0.00 0.00 |  |  |  | 0.00 1.11 0.89 |  |       |           | 1.00 2.00 0.00 |  |  |  |
| Final Sat.:  |  | 1805 0 1615      |                          |                          |  | 0 0 0          |  |  |  | 0 1965 1569    |  |       |           | 1805 3800 0    |  |  |  |
| ----- ----- ----- -----                                |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| Capacity Analysis Module:                              |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| Vol/Sat:   |  | 0.13 0.00 0.21   |                          |                          |  | 0.00 0.00 0.00 |  |  |  | 0.00 0.11 0.11 |  |       |           | 0.30 0.15 0.00 |  |  |  |
| Crit Moves:  |  | ****             |                          |                          |  | ****           |  |  |  | ****           |  |       |           | ****           |  |  |  |
| Green/Cycle:   |  | 0.33 0.00 0.33   |                          |                          |  | 0.00 0.00 0.00 |  |  |  | 0.00 0.20 0.20 |  |       |           | 0.47 0.67 0.00 |  |  |  |
| Volume/Cap:  |  | 0.39 0.00 0.64   |                          |                          |  | 0.00 0.00 0.00 |  |  |  | 0.00 0.55 0.55 |  |       |           | 0.64 0.23 0.00 |  |  |  |
| ----- ----- ----- -----                                |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| Level Of Service Module:                               |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |
| Delay/Veh:   |  | 16.9 0.0 20.2    |                          |                          |  | 0.0 0.0 0.0    |  |  |  | 0.0 24.0 24.0  |  |       |           | 14.0 4.1 0.0   |  |  |  |
| User DelAdj:   |  | 1.00 1.00 1.00   |                          |                          |  | 1.00 1.00 1.00 |  |  |  | 1.00 1.00 1.00 |  |       |           | 1.00 1.00 1.00 |  |  |  |
| AdjDel/Veh:  |  | 16.9 0.0 20.2    |                          |                          |  | 0.0 0.0 0.0    |  |  |  | 0.0 24.0 24.0  |  |       |           | 14.0 4.1 0.0   |  |  |  |
| Queue:   |  | 5 0 8            |                          |                          |  | 0 0 0          |  |  |  | 0 6 5          |  |       |           | 12 6 0         |  |  |  |
| *****  |  |                  |                          |                          |  |                |  |  |  |                |  |       |           |                |  |  |  |

|  |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
|--|--------------------------|------|------|--------------------------|------|------|-------------|------|------|-------------|-----------|------|--|
| NOBLD-AM.CMD   | Tue Nov 5, 1996 13:08:31 |      |      |                          |      |      |             |      |      |             | Page 11-1 |      |  |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| No Project Alternative                                 |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| AM Peak Hour   |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Level Of Service Computation Report                    |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| *****  |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Intersection #8 Adeline St./ 3rd St.                   |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| *****  |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Cycle (sec):   | 100                      |      |      | Critical Vol./Cap. (X):  |      |      |             |      |      |             | 0.615     |      |  |
| Loss Time (sec):                                       | 12 (Y+R = 4 sec)         |      |      | Average Delay (sec/veh): |      |      |             |      |      |             | 46.9      |      |  |
| Optimal Cycle:   | 92                       |      |      | Level Of Service:        |      |      |             |      |      |             | E         |      |  |
| *****  |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Approach:  | North Bound              |      |      | South Bound              |      |      | East Bound  |      |      | West Bound  |           |      |  |
| Movement:  | L                        | T    | R    | L                        | T    | R    | L           | T    | R    | L           | T         | R    |  |
| ----- ----- ----- -----                                |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Control:   | Split Phase              |      |      | Split Phase              |      |      | Split Phase |      |      | Split Phase |           |      |  |
| Rights:  | Include                  |      |      | Include                  |      |      | Include     |      |      | Include     |           |      |  |
| Min. Green:  | 10                       | 20   | 20   | 10                       | 20   | 20   | 10          | 20   | 20   | 10          | 20        | 20   |  |
| Lanes:   | 0                        | 1    | 0    | 1                        | 0    | 0    | 0           | 1    | 0    | 1           | 0         | 0    |  |
| ----- ----- ----- -----                                |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Volume Module:   |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Base Vol:  | 8                        | 0    | 31   | 26                       | 0    | 26   | 8           | 6    | 29   | 50          | 59        | 56   |  |
| Growth Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |  |
| Initial Bse:   | 8                        | 0    | 31   | 26                       | 0    | 26   | 8           | 6    | 29   | 50          | 59        | 56   |  |
| Added Vol:   | 0                        | 707  | 0    | 0                        | 950  | 0    | 0           | 0    | 0    | 0           | 0         | 0    |  |
| PasserByVol:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0           | 0    | 0    | 0           | 0         | 0    |  |
| Initial Fut:   | 8                        | 707  | 31   | 26                       | 950  | 26   | 8           | 6    | 29   | 50          | 59        | 56   |  |
| User Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |  |
| PHF Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |  |
| PHF Volume:  | 8                        | 707  | 31   | 26                       | 950  | 26   | 8           | 6    | 29   | 50          | 59        | 56   |  |
| Reduct Vol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0           | 0    | 0    | 0           | 0         | 0    |  |
| Reduced Vol:   | 8                        | 707  | 31   | 26                       | 950  | 26   | 8           | 6    | 29   | 50          | 59        | 56   |  |
| PCE Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |  |
| MLF Adj:   | 1.05                     | 1.05 | 1.05 | 1.05                     | 1.05 | 1.05 | 1.00        | 1.00 | 1.00 | 1.05        | 1.05      | 1.05 |  |
| Final Vol.:  | 8                        | 743  | 33   | 27                       | 998  | 27   | 8           | 6    | 29   | 53          | 62        | 59   |  |
| ----- ----- ----- -----                                |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Saturation Flow Module:                                |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Sat/Lane:  | 1900                     | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900        | 1900 | 1900 | 1900        | 1900      | 1900 |  |
| Adjustment:  | 0.99                     | 0.99 | 0.99 | 1.00                     | 1.00 | 1.00 | 0.97        | 0.97 | 0.85 | 0.94        | 0.94      | 0.94 |  |
| Lanes:   | 0.02                     | 1.90 | 0.08 | 0.05                     | 1.90 | 0.05 | 0.57        | 0.43 | 1.00 | 0.61        | 0.71      | 0.68 |  |
| Final Sat.:  | 38                       | 3565 | 158  | 98                       | 3605 | 98   | 1053        | 790  | 1615 | 1089        | 1273      | 1212 |  |
| ----- ----- ----- -----                                |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Capacity Analysis Module:                              |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Vol/Sat:   | 0.21                     | 0.21 | 0.21 | 0.28                     | 0.28 | 0.28 | 0.01        | 0.01 | 0.02 | 0.05        | 0.05      | 0.05 |  |
| Crit Moves:  | ****                     |      |      | ****                     |      |      | ****        |      |      | ****        |           |      |  |
| Green/Cycle:   | 0.21                     | 0.21 | 0.21 | 0.27                     | 0.27 | 0.27 | 0.20        | 0.20 | 0.20 | 0.20        | 0.20      | 0.20 |  |
| Volume/Cap:  | 1.01                     | 1.01 | 1.01 | 1.01                     | 1.01 | 1.01 | 0.04        | 0.04 | 0.09 | 0.24        | 0.24      | 0.24 |  |
| ----- ----- ----- -----                                |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Level Of Service Module:                               |                          |      |      |                          |      |      |             |      |      |             |           |      |  |
| Delay/Veh:   | 53.2                     | 53.2 | 53.2 | 47.5                     | 47.5 | 47.5 | 20.8        | 20.8 | 21.1 | 21.8        | 21.8      | 21.8 |  |
| User DelAdj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |  |
| AdjDel/Veh:  | 53.2                     | 53.2 | 53.2 | 47.5                     | 47.5 | 47.5 | 20.8        | 20.8 | 21.1 | 21.8        | 21.8      | 21.8 |  |
| Queue:   | 1                        | 28   | 2    | 2                        | 37   | 2    | 0           | 0    | 1    | 1           | 1         | 1    |  |
| *****  |                          |      |      |                          |      |      |             |      |      |             |           |      |  |



Table J.7-1 (Continued)

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No Project Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #12 Maritime/W.Grand/I-880 Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.528  
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 17.6  
Optimal Cycle: 70 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 2           | 0  | 0  | 1           | 0  | 0  | 1          | 0  | 0  | 1          | 0  | 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 33   | 0    | 16   | 28   | 47   | 48   | 394  | 438  | 0    | 300  | 9    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 33   | 0    | 16   | 28   | 47   | 48   | 394  | 438  | 0    | 300  | 9    |
| Added Vol:   | 271  | 0    | 134  | 0    | 0    | 0    | 0    | 0    | 403  | 147  | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 271  | 33   | 134  | 16   | 28   | 47   | 48   | 394  | 841  | 147  | 300  | 9    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 271  | 33   | 134  | 16   | 28   | 47   | 48   | 394  | 841  | 147  | 300  | 9    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 271  | 33   | 134  | 16   | 28   | 47   | 48   | 394  | 841  | 147  | 300  | 9    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 279  | 33   | 134  | 16   | 28   | 47   | 48   | 394  | 883  | 147  | 315  | 9    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.88 | 0.88 | 0.95 | 0.91 | 0.91 | 0.95 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 0.20 | 0.80 | 1.00 | 0.37 | 0.63 | 1.00 | 1.00 | 2.00 | 1.00 | 1.94 | 0.06 |
| Final Sat.: | 3610 | 330  | 1342 | 1805 | 645  | 1084 | 1805 | 1900 | 3230 | 1805 | 3694 | 106  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.08 | 0.10 | 0.10 | 0.01 | 0.04 | 0.04 | 0.03 | 0.21 | 0.27 | 0.08 | 0.09 | 0.09 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      | **** |      |      |      |
| Green/Cycle: | 0.13 | 0.22 | 0.22 | 0.11 | 0.20 | 0.20 | 0.19 | 0.44 | 0.44 | 0.13 | 0.38 | 0.38 |
| Volume/Cap:  | 0.62 | 0.46 | 0.46 | 0.08 | 0.22 | 0.22 | 0.14 | 0.47 | 0.62 | 0.62 | 0.22 | 0.22 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 28.6 | 22.7 | 22.7 | 25.9 | 21.7 | 21.7 | 21.7 | 12.7 | 14.2 | 29.8 | 13.4 | 13.4 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 28.6 | 22.7 | 22.7 | 25.9 | 21.7 | 21.7 | 21.7 | 12.7 | 14.2 | 29.8 | 13.4 | 13.4 |
| Queue:       | 8    | 1    | 3    | 0    | 1    | 1    | 1    | 8    | 19   | 4    | 6    | 0    |

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FISCO/Port Vision 2000 EIS/EIR  
No Project Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #13 Adeline/5th/I-880 SB Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.752  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.4  
Optimal Cycle: 82 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound  |    |    | West Bound  |    |    |
|-------------|-------------|----|----|-------------|----|----|-------------|----|----|-------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L           | T  | R  | L           | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Split Phase |    |    | Split Phase |    |    |
| Rights:     | Ovl         |    |    | Include     |    |    | Include     |    |    | Include     |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10          | 10 | 20 | 10          | 20 | 20 |
| Lanes:      | 1           | 0  | 1  | 1           | 0  | 1  | 1           | 0  | 1  | 0           | 1  | 1  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 72   | 109  | 165  | 256  | 51   | 0    | 0    | 169  | 364  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 72   | 109  | 165  | 256  | 51   | 0    | 0    | 169  | 364  |
| Added Vol:   | 153  | 117  | 437  | 0    | 177  | 0    | 0    | 0    | 227  | 546  | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 153  | 117  | 437  | 72   | 286  | 165  | 256  | 51   | 227  | 546  | 169  | 364  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.50 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 153  | 117  | 437  | 72   | 286  | 165  | 256  | 51   | 227  | 546  | 169  | 182  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 153  | 117  | 437  | 72   | 286  | 165  | 256  | 51   | 227  | 546  | 169  | 182  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.05 | 1.10 | 1.10 | 1.10 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 153  | 117  | 437  | 72   | 301  | 173  | 282  | 56   | 250  | 546  | 177  | 191  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 0.85 | 0.95 | 0.95 | 0.95 | 0.92 | 0.92 | 0.92 | 0.95 | 0.92 | 0.92 |
| Lanes:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.27 | 0.73 | 1.67 | 0.33 | 1.00 | 1.00 | 0.96 | 1.04 |
| Final Sat.: | 1805 | 1900 | 1615 | 1805 | 2292 | 1318 | 2921 | 580  | 1750 | 1805 | 1682 | 1815 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.08 | 0.06 | 0.27 | 0.04 | 0.13 | 0.13 | 0.10 | 0.10 | 0.14 | 0.30 | 0.11 | 0.11 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      | **** |      |      |      |
| Green/Cycle: | 0.11 | 0.21 | 0.58 | 0.10 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.37 | 0.37 | 0.37 |
| Volume/Cap:  | 0.81 | 0.30 | 0.47 | 0.40 | 0.66 | 0.66 | 0.48 | 0.48 | 0.71 | 0.81 | 0.28 | 0.28 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 43.1 | 21.8 | 8.0  | 28.0 | 25.3 | 25.3 | 23.1 | 23.1 | 26.2 | 23.1 | 14.1 | 14.1 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 43.1 | 21.8 | 8.0  | 28.0 | 25.3 | 25.3 | 23.1 | 23.1 | 26.2 | 23.1 | 14.1 | 14.1 |
| Queue:       | 5    | 3    | 7    | 2    | 8    | 5    | 7    | 1    | 7    | 15   | 3    | 4    |

## Table J.7-1 (Continued)

|  |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
|--|--------------------------|--------------------------|------|-------------|------|------|-------------|------|------|-------------|------|------|-----------|
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| FISCO/Port Vision 2000 EIS/EIR                         |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| No Project Alternative                                 |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| AM Peak Hour   |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Level Of Service Computation Report                    |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| *****  |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Intersection #14 Union/5th/I-880 NB Ramps              |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| *****  |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |             |      |      | 0.151       |      |      |           |
| Loss Time (sec):                                       | 11 (Y+R = 4 sec)         | Average Delay (sec/veh): |      |             |      |      |             |      |      | 17.3        |      |      |           |
| Optimal Cycle:   | 71                       | Level Of Service:        |      |             |      |      |             |      |      | C           |      |      |           |
| *****  |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound  |      |      | West Bound  |      |      |           |
| Movement:  | L                        | T                        | R    | L           | T    | R    | L           | T    | R    | L           | T    | R    |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Control:   | Protected                |                          |      | Protected   |      |      | Split Phase |      |      | Split Phase |      |      |           |
| Rights:  | Include                  |                          |      | Include     |      |      | Include     |      |      | Include     |      |      |           |
| Min. Green:  | 0                        | 20                       | 20   | 0           | 20   | 20   | 10          | 20   | 20   | 10          | 20   | 20   |           |
| Lanes:   | 0                        | 0                        | 1    | 1           | 1    | 0    | 0           | 1    | 0    | 1           | 0    | 1    | 0         |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Volume Module:   |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Base Vol:  | 0                        | 175                      | 45   | 0           | 154  | 31   | 24          | 43   | 13   | 205         | 31   | 115  |           |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 |           |
| Initial Bse:   | 0                        | 175                      | 45   | 0           | 154  | 31   | 24          | 43   | 13   | 205         | 31   | 115  |           |
| Added Vol:   | 0                        | 0                        | 227  | 0           | 0    | 0    | 0           | 0    | 0    | 153         | 0    | 0    |           |
| PasserByVol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0           | 0    | 0    | 0           | 0    | 0    |           |
| Initial Fut:   | 0                        | 175                      | 272  | 0           | 154  | 31   | 24          | 43   | 13   | 358         | 31   | 115  |           |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 |           |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 |           |
| PHF Volume:  | 0                        | 175                      | 272  | 0           | 154  | 31   | 24          | 43   | 13   | 358         | 31   | 115  |           |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0           | 0    | 0    | 0           | 0    | 0    |           |
| Reduced Vol:   | 0                        | 175                      | 272  | 0           | 154  | 31   | 24          | 43   | 13   | 358         | 31   | 115  |           |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 |           |
| MLF Adj:   | 1.00                     | 1.10                     | 1.10 | 1.00        | 1.05 | 1.05 | 1.05        | 1.05 | 1.05 | 1.00        | 1.00 | 1.00 |           |
| Final Vol.:  | 0                        | 193                      | 299  | 0           | 162  | 33   | 25          | 45   | 14   | 358         | 31   | 115  |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Saturation Flow Module:                                |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900        | 1900 | 1900 | 1900        | 1900 | 1900 |           |
| Adjustment:  | 1.00                     | 0.91                     | 0.91 | 1.00        | 0.97 | 0.97 | 0.96        | 0.96 | 0.96 | 0.95        | 1.00 | 0.85 |           |
| Lanes:   | 0.00                     | 1.18                     | 1.82 | 0.00        | 1.66 | 0.34 | 0.60        | 1.07 | 0.33 | 1.00        | 1.00 | 1.00 |           |
| Final Sat.:  | 0                        | 2035                     | 3152 | 0           | 3062 | 624  | 1086        | 1955 | 608  | 1805        | 1900 | 1615 |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Capacity Analysis Module:                              |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Vol/Sat:   | 0.00                     | 0.09                     | 0.09 | 0.00        | 0.05 | 0.05 | 0.02        | 0.02 | 0.02 | 0.20        | 0.02 | 0.07 |           |
| Crit Moves:  | ****                     |                          |      | ****        |      |      | ****        |      |      | ****        |      |      |           |
| Green/Cycle:   | 0.00                     | 0.22                     | 0.22 | 0.00        | 0.22 | 0.22 | 0.20        | 0.20 | 0.20 | 0.47        | 0.47 | 0.47 |           |
| Volume/Cap:  | 0.00                     | 0.42                     | 0.42 | 0.00        | 0.24 | 0.24 | 0.12        | 0.12 | 0.12 | 0.42        | 0.03 | 0.15 |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Level Of Service Module:                               |                          |                          |      |             |      |      |             |      |      |             |      |      |           |
| Delay/Veh:   | 0.0                      | 21.7                     | 21.7 | 0.0         | 20.6 | 20.6 | 21.2        | 21.2 | 21.2 | 11.7        | 9.3  | 9.9  |           |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 |           |
| AdjDel/Veh:  | 0.0                      | 21.7                     | 21.7 | 0.0         | 20.6 | 20.6 | 21.2        | 21.2 | 21.2 | 11.7        | 9.3  | 9.9  |           |
| Queue:   | 0                        | 5                        | 7    | 0           | 4    | 1    | 1           | 1    | 0    | 7           | 0    | 2    |           |
| *****  |                          |                          |      |             |      |      |             |      |      |             |      |      |           |

|  |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
|--|--------------------------|--------------------------|------|-------------|------|------|------------|------|------|------------|------|------|-----------|
| NOBLD-AM.CMD   | Tue Nov 5, 1996 13:08:31 |                          |      |             |      |      |            |      |      |            |      |      | Page 15-1 |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| No Project Alternative                                 |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| AM Peak Hour   |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Level Of Service Computation Report                    |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Intersection #15 7th/I-880 NB Ramp/Frontage Rd.        |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      | 0.509      |      |      |           |
| Loss Time (sec):                                       | 10 (Y+R = 4 sec)         | Average Delay (sec/veh): |      |             |      |      |            |      |      | 23.3       |      |      |           |
| Optimal Cycle:   | 70                       | Level Of Service:        |      |             |      |      |            |      |      | C          |      |      |           |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound |      |      | West Bound |      |      |           |
| Movement:  | L                        | T                        | R    | L           | T    | R    | L          | T    | R    | L          | T    | R    |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Control:   | Protected                |                          |      | Protected   |      |      | Protected  |      |      | Protected  |      |      |           |
| Rights:  | Include                  |                          |      | Ovl         |      |      | Include    |      |      | Include    |      |      |           |
| Min. Green:  | 10                       | 20                       | 20   | 10          | 20   | 20   | 10         | 20   | 20   | 0          | 20   | 20   |           |
| Lanes:   | 1                        | 0                        | 1    | 1           | 0    | 2    | 1          | 0    | 2    | 0          | 0    | 0    |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Volume Module:   |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Base Vol:  | 0                        | 548                      | 21   | 17          | 0    | 94   | 0          | 16   | 0    | 0          | 62   | 1    |           |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |           |
| Initial Bse:   | 0                        | 548                      | 21   | 17          | 0    | 94   | 0          | 16   | 0    | 0          | 62   | 1    |           |
| Added Vol:   | 564                      | 0                        | 0    | 0           | 0    | 275  | 227        | 2    | 0    | 0          | 8    | 0    |           |
| PasserByVol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |           |
| Initial Fut:   | 564                      | 548                      | 21   | 17          | 0    | 369  | 227        | 18   | 0    | 0          | 70   | 1    |           |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |           |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |           |
| PHF Volume:  | 564                      | 548                      | 21   | 17          | 0    | 369  | 227        | 18   | 0    | 0          | 70   | 1    |           |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |           |
| Reduced Vol:   | 564                      | 548                      | 21   | 17          | 0    | 369  | 227        | 18   | 0    | 0          | 70   | 1    |           |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |           |
| MLF Adj:   | 1.00                     | 1.05                     | 1.05 | 1.00        | 1.00 | 1.13 | 1.00       | 1.05 | 1.00 | 1.00       | 1.05 | 1.05 |           |
| Final Vol.:  | 564                      | 575                      | 22   | 17          | 0    | 417  | 227        | 18   | 0    | 0          | 74   | 1    |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Saturation Flow Module:                                |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900 |           |
| Adjustment:  | 0.95                     | 0.99                     | 0.99 | 0.95        | 1.00 | 0.85 | 0.95       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |           |
| Lanes:   | 1.00                     | 1.93                     | 0.07 | 1.00        | 0.00 | 2.00 | 1.00       | 2.00 | 0.00 | 0.00       | 1.97 | 0.03 |           |
| Final Sat.:  | 1805                     | 3623                     | 139  | 1805        | 0    | 3230 | 1805       | 3800 | 0    | 0          | 3749 | 51   |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Capacity Analysis Module:                              |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Vol/Sat:   | 0.31                     | 0.16                     | 0.16 | 0.01        | 0.00 | 0.13 | 0.13       | 0.00 | 0.00 | 0.00       | 0.02 | 0.02 |           |
| Crit Moves:  | ****                     |                          |      | ****        |      |      | ****       |      |      |            | **** |      |           |
| Green/Cycle:   | 0.36                     | 0.37                     | 0.37 | 0.19        | 0.00 | 0.34 | 0.14       | 0.34 | 0.00 | 0.00       | 0.20 | 0.20 |           |
| Volume/Cap:  | 0.88                     | 0.43                     | 0.43 | 0.05        | 0.00 | 0.38 | 0.88       | 0.01 | 0.00 | 0.00       | 0.10 | 0.10 |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Level Of Service Module:                               |                          |                          |      |             |      |      |            |      |      |            |      |      |           |
| Delay/Veh:   | 28.6                     | 15.3                     | 15.3 | 21.6        | 0.0  | 16.1 | 45.7       | 14.0 | 0.0  | 0.0        | 21.1 | 21.1 |           |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |           |
| AdjDel/Veh:  | 28.6                     | 15.3                     | 15.3 | 21.6        | 0.0  | 16.1 | 45.7       | 14.0 | 0.0  | 0.0        | 21.1 | 21.1 |           |
| Queue:   | 17                       | 12                       | 1    | 0           | 0    | 9    | 8          | 0    | 0    | 0          | 2    | 0    |           |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |      |           |

Table J.7-1 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
No Project Alternative  
AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #16 7th/I-880 SB Ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.342  
Loss Time (sec): 5 (Y+R = 4 sec) Average Delay (sec/veh): 1.6  
Optimal Cycle: 35 Level Of Service: A

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected  
Rights: Include Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 20 20 10 20 20  
Lanes: 0 0 0 0 0 0 0 0 2 0 1 2 0 2 0 0

## Volume Module:

Base Vol: 0 0 0 0 0 0 0 0 0 0 65 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 0 0 0 0 0 0 0 65 0 0 0  
Added Vol: 0 0 0 0 0 0 0 0 229 495 0 847 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 0 0 0 0 0 0 0 229 495 65 847 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 0 0 0 0 0 229 495 65 847 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 0 0 0 0 0 0 0 0 229 495 65 847 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.05 1.00 1.03 1.05 1.00  
Final Vol.: 0 0 0 0 0 0 0 0 240 495 67 890 0

## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.85 0.95 1.00 1.00  
Lanes: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 2.00 1.00 2.00 2.00 0.00  
Final Sat.: 0 0 0 0 0 0 0 0 3800 1615 3610 3800 0

## Capacity Analysis Module:

Vol/Sat: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.06 0.31 0.02 0.23 0.00  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.85 0.85 0.10 0.95 0.00  
Volume/Cap: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.07 0.36 0.19 0.25 0.00

## Level Of Service Module:

Delay/Veh: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.8 1.1 26.7 0.1 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.8 1.1 26.7 0.1 0.0  
Queue: 0 0 0 0 0 0 0 0 1 3 2 2 0

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FISCO/Port Vision 2000 EIS/EIR  
No Project Alternative  
AM Peak Hour

## Level Of Service Computation Report

1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #17 14th/I-880 Frontage Rd.

Average Delay (sec/veh): 2.5 Worst Case Level Of Service: C

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include

Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 0 1 0 0 0 1

## Volume Module:

Base Vol: 0 0 89 30 0 0 0 0 140 0 6  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 89 30 0 0 0 0 140 0 6  
Added Vol: 0 227 0 0 275 0 0 0 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 227 89 30 275 0 0 0 140 0 6  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 227 89 30 275 0 0 0 140 0 6  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 227 89 30 275 0 0 0 140 0 6

## Adjusted Volume Module:

Grade: 0% 0% 0% 0%  
% Cycle/Cars: xxxx xxxx xxxx xxxx xxxx xxxx  
% Truck/Comb: xxxx xxxx xxxx xxxx xxxx xxxx  
PCE Adj: 1.10 1.00 1.00 1.10 1.00 1.00 1.10 1.10 1.10 1.10 1.10  
Cycl/Car PCE: xxxx xxxx xxxx xxxx xxxx xxxx  
Trck/Cmb PCE: xxxx xxxx xxxx xxxx xxxx xxxx  
Adj Vol.: 0 227 89 33 275 0 0 0 154 0 7

## Critical Gap Module:

MoveUp Time:xxxxx xxxx xxxxx 2.1 xxxx xxxxx xxxxx xxxx xxxxx 3.4 xxxx 2.6  
Critical Gp:xxxxx xxxx xxxxx 5.5 xxxx xxxxx xxxxx xxxx xxxxx 7.0 xxxx 5.5

## Capacity Module:

Cnflct Vol: xxxx xxxx xxxxx 316 xxxx xxxxx xxxx xxxx xxxxx 576 xxxx 158  
Potent Cap.: xxxx xxxx xxxxx 1160 xxxx xxxxx xxxx xxxx xxxxx 453 xxxx 1151  
Adj Cap: xxxx xxxx xxxxx 1.00 xxxx xxxxx xxxx xxxx xxxxx 0.97 xxxx 1.00  
Move Cap.: xxxx xxxx xxxxx 1160 xxxx xxxxx xxxx xxxx xxxxx 440 xxxx 1151

## Level Of Service Module:

Stopped Del:xxxxx xxxx xxxxx 3.2 xxxx xxxxx xxxxx xxxx xxxxx 12.0 xxxx 3.1  
LOS by Move: \* \* \* A \* \* \* C \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
ApproachDel: 0.0 0.3 0.0 11.6



# Table J.7-1 (Continued)

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## FISCO/Port Vision 2000 EIS/EIR

No Project Alternative

AM Peak Hour

### Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #18 W.Grand/I-880 Frontage Rd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.434  
 Loss Time (sec): 11 (Y+R = 4 sec) Average Delay (sec/veh): 20.6  
 Optimal Cycle: 81 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Split Phase |    |    | Split Phase |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 1           | 0  | 1  | 1           | 0  | 1  | 0          | 1  | 1  | 0          | 1  | 1  |

| Volume Module: |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:      | 9    | 0    | 0    | 678  | 48   | 6    | 65   | 234  | 12   | 0    | 152  | 449  |
| Growth Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse:   | 9    | 0    | 0    | 678  | 48   | 6    | 65   | 234  | 12   | 0    | 152  | 449  |
| Added Vol:     | 0    | 151  | 76   | 0    | 185  | 0    | 0    | 134  | 0    | 90   | 147  | 0    |
| PasserByVol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut:   | 9    | 151  | 76   | 678  | 233  | 6    | 65   | 368  | 12   | 90   | 299  | 449  |
| User Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:    | 9    | 151  | 76   | 678  | 233  | 6    | 65   | 368  | 12   | 90   | 299  | 449  |
| Reduct Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol:   | 9    | 151  | 76   | 678  | 233  | 6    | 65   | 368  | 12   | 90   | 299  | 449  |
| PCE Adj:       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:       | 1.00 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.05 | 1.05 | 1.00 | 1.10 | 1.10 |
| Final Vol.:    | 9    | 159  | 80   | 712  | 233  | 6    | 65   | 387  | 13   | 90   | 329  | 494  |

| Saturation Flow Module: |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:               | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment:             | 0.95 | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.91 | 0.91 |
| Lanes:                  | 1.00 | 1.33 | 0.67 | 2.00 | 0.97 | 0.03 | 1.00 | 1.94 | 0.06 | 1.00 | 1.20 | 1.80 |
| Final Sat.:             | 1805 | 2402 | 1208 | 3610 | 1852 | 48   | 1805 | 3677 | 123  | 1805 | 2074 | 3113 |

| Capacity Analysis Module: |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:                  | 0.00 | 0.07 | 0.07 | 0.20 | 0.13 | 0.13 | 0.04 | 0.11 | 0.11 | 0.05 | 0.16 | 0.16 |
| Crit Moves:               | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle:              | 0.20 | 0.20 | 0.20 | 0.33 | 0.33 | 0.33 | 0.10 | 0.24 | 0.24 | 0.12 | 0.26 | 0.26 |
| Volume/Cap:               | 0.02 | 0.33 | 0.33 | 0.60 | 0.38 | 0.38 | 0.36 | 0.43 | 0.43 | 0.41 | 0.60 | 0.60 |

| Level Of Service Module: |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:               | 20.8 | 22.2 | 22.2 | 18.7 | 16.8 | 16.8 | 27.7 | 21.0 | 21.0 | 27.0 | 21.4 | 21.4 |
| User DelAdj:             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:              | 20.8 | 22.2 | 22.2 | 18.7 | 16.8 | 16.8 | 27.7 | 21.0 | 21.0 | 27.0 | 21.4 | 21.4 |
| Queue:                   | 0    | 4    | 2    | 17   | 5    | 0    | 2    | 9    | 0    | 2    | 8    | 12   |



Table J.7-2

FISCO/Port Vision 2000 EIS/EIR  
No Project Alternative  
PM Peak Hour

## Trip Generation Report

## Forecast for PM Peak Hour

| Zone # | Subzone          | Amount | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|--------|------------------|--------|----------------|---------|----------|----------|-----------|-------------|------------|
| 1      | FISCO 4 & 5      | 200.00 | Employees      | 0.06    | 0.21     | 12       | 42        | 54          | 1.4        |
|        | Zone 1 Subtotal  |        |                |         |          | 12       | 42        | 54          | 1.4        |
| 2      | FISCO 1,2,3      | 500.00 | Employees      | 0.06    | 0.21     | 30       | 105       | 135         | 3.6        |
|        | Zone 2 Subtotal  |        |                |         |          | 30       | 105       | 135         | 3.6        |
| 4      | SP Rail Term     | 130.00 | Employees      | 0.10    | 0.36     | 13       | 47        | 60          | 1.6        |
|        | Zone 4 Subtotal  |        |                |         |          | 13       | 47        | 60          | 1.6        |
| 5      | UP Rail Term     | 82.00  | Employees      | 0.10    | 0.36     | 8        | 30        | 38          | 1.0        |
|        | Zone 5 Subtotal  |        |                |         |          | 8        | 30        | 38          | 1.0        |
| 6      | Middle Harbr     | 516.00 | Employees      | 0.06    | 0.22     | 31       | 114       | 145         | 3.8        |
|        | Zone 6 Subtotal  |        |                |         |          | 31       | 114       | 145         | 3.8        |
| 7      | 7th St Harbr     | 613.00 | Employees      | 0.06    | 0.22     | 37       | 135       | 172         | 4.6        |
|        | Zone 7 Subtotal  |        |                |         |          | 37       | 135       | 172         | 4.6        |
| 8      | Outer Harbor     | 706.00 | Employees      | 0.06    | 0.21     | 42       | 148       | 190         | 5.0        |
|        | Zone 8 Subtotal  |        |                |         |          | 42       | 148       | 190         | 5.0        |
| 16     | Middle Harbr     | 1.00   | Trucks Inter   | 17.00   | 20.00    | 17       | 20        | 37          | 1.0        |
|        | Zone 16 Subtotal |        |                |         |          | 17       | 20        | 37          | 1.0        |
| 17     | 7th St Harbr     | 1.00   | Trucks Inter   | 20.00   | 24.00    | 20       | 24        | 44          | 1.2        |
|        | Zone 17 Subtotal |        |                |         |          | 20       | 24        | 44          | 1.2        |
| 18     | Outer Harbor     | 1.00   | Trucks Inter   | 23.00   | 27.00    | 23       | 27        | 50          | 1.3        |
|        | Zone 18 Subtotal |        |                |         |          | 23       | 27        | 50          | 1.3        |
| 24     | SP Rail Term     | 1.00   | Truck External | 213.00  | 255.00   | 213      | 255       | 468         | 12.4       |
|        | Zone 24 Subtotal |        |                |         |          | 213      | 255       | 468         | 12.4       |
| 25     | UP Rail Term     | 1.00   | Truck External | 115.00  | 138.00   | 115      | 138       | 253         | 6.7        |
|        | Zone 25 Subtotal |        |                |         |          | 115      | 138       | 253         | 6.7        |
| 26     | Middle Harbr     | 1.00   | Truck External | 273.00  | 327.00   | 273      | 327       | 600         | 15.9       |
|        | Zone 26 Subtotal |        |                |         |          | 273      | 327       | 600         | 15.9       |
| 27     | 7th St Harbr     | 1.00   | Truck External | 325.00  | 388.00   | 325      | 388       | 713         | 18.9       |
|        | Zone 27 Subtotal |        |                |         |          | 325      | 388       | 713         | 18.9       |
| 28     | Outer Harbor     | 1.00   | Truck External | 374.00  | 447.00   | 374      | 447       | 821         | 21.7       |

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No Project Alternative  
PM Peak Hour

| Zone #           | Subzone | Amount | Units | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|------------------|---------|--------|-------|---------|----------|----------|-----------|-------------|------------|
| Zone 28 Subtotal |         |        |       |         |          | 374      | 447       | 821         | 21.7       |
| TOTAL            |         |        |       |         |          | 1533     | 2247      | 3780        | 100.0      |

# Table J.7-2 (Continued)

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## Trip Distribution Report

### Percent Of Trips Existing

| Zone | To Gates |      |      |      |      |      |      |      |
|------|----------|------|------|------|------|------|------|------|
|      | 4        | 5    | 11   | 12   | 13   | 14   | 15   | 16   |
| 1    | 0.0      | 0.0  | 10.0 | 30.0 | 7.0  | 19.0 | 19.0 | 15.0 |
| 2    | 0.0      | 0.0  | 10.0 | 30.0 | 7.0  | 19.0 | 19.0 | 15.0 |
| 4    | 0.0      | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0 |
| 5    | 0.0      | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0 |
| 6    | 0.0      | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0 |
| 7    | 0.0      | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0 |
| 8    | 0.0      | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0 |
| 16   | 62.2     | 33.6 | 0.0  | 4.2  | 0.0  | 0.0  | 0.0  | 0.0  |
| 17   | 62.2     | 33.6 | 0.0  | 4.2  | 0.0  | 0.0  | 0.0  | 0.0  |
| 18   | 62.2     | 33.6 | 0.0  | 4.2  | 0.0  | 0.0  | 0.0  | 0.0  |
| 24   | 0.0      | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0 |
| 25   | 0.0      | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0 |
| 26   | 0.0      | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0 |
| 27   | 0.0      | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0 |
| 28   | 0.0      | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0 |

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## Turning Movement Report PM Peak Hour

| Volume Type                      | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total Volume |
|----------------------------------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------------|
|                                  | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |              |
| #3 Maritime/Burma                |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 5          | 590  | 0     | 0          | 109  | 0     | 0         | 0    | 50    | 0         | 0    | 0     | 754          |
| Added                            | 0          | 315  | 0     | 0          | 211  | 119   | 192       | 0    | 0     | 0         | 0    | 0     | 836          |
| Total                            | 5          | 905  | 0     | 0          | 320  | 119   | 192       | 0    | 50    | 0         | 0    | 0     | 1590         |
| #4 Maritime/14th                 |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 0          | 414  | 28    | 105        | 132  | 0     | 0         | 0    | 0     | 92        | 0    | 290   | 1061         |
| Added                            | 229        | 187  | 0     | 0          | 120  | 91    | 128       | 0    | 303   | 0         | 0    | 0     | 1057         |
| Total                            | 229        | 601  | 28    | 105        | 252  | 91    | 128       | 0    | 303   | 92        | 0    | 290   | 2118         |
| #5 Maritime/7th Ext.             |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 36         | 0    | 0     | 0          | 0    | 75    | 223       | 0    | 74    | 0         | 0    | 0     | 408          |
| Added                            | 5          | 413  | 0     | 0          | 421  | 1     | 3         | 0    | 19    | 0         | 0    | 0     | 863          |
| Total                            | 41         | 413  | 0     | 0          | 421  | 76    | 226       | 0    | 93    | 0         | 0    | 0     | 1271         |
| #6 7th/7th Ext.                  |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 0          | 0    | 0     | 31         | 18   | 0     | 0         | 0    | 19    | 0         | 0    | 0     | 68           |
| Added                            | 19         | 126  | 59    | 296        | 99   | 46    | 80        | 444  | 23    | 45        | 317  | 212   | 1765         |
| Total                            | 19         | 126  | 59    | 327        | 117  | 46    | 80        | 444  | 42    | 45        | 317  | 212   | 1833         |
| #7 Middle Harbor/Gate 2          |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 95         | 0    | 229   | 0          | 0    | 0     | 0         | 215  | 131   | 94        | 88   | 0     | 852          |
| Added                            | 7          | 0    | 118   | 0          | 0    | 0     | 0         | 206  | 2     | 34        | 169  | 0     | 536          |
| PassBy                           | 117        | 0    | 176   | 0          | 0    | 0     | 0         | 0    | 176   | 264       | 0    | 0     | 733          |
| Total                            | 219        | 0    | 523   | 0          | 0    | 0     | 0         | 421  | 309   | 392       | 257  | 0     | 2121         |
| #8 Adeline St./ 3rd St.          |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 36         | 0    | 122   | 43         | 0    | 15    | 30        | 14   | 13    | 89        | 39   | 78    | 479          |
| Added                            | 0          | 874  | 0     | 0          | 572  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1446         |
| Total                            | 36         | 874  | 122   | 43         | 572  | 15    | 30        | 14   | 13    | 89        | 39   | 78    | 1925         |
| #12 Maritime/W.Grand/I-880 Ramps |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 0          | 23   | 0     | 9          | 23   | 23    | 20        | 454  | 210   | 0         | 624  | 13    | 1399         |
| Added                            | 366        | 0    | 140   | 0          | 0    | 0     | 0         | 0    | 224   | 106       | 0    | 0     | 836          |
| Total                            | 366        | 23   | 140   | 9          | 23   | 23    | 20        | 454  | 434   | 106       | 624  | 13    | 2235         |
| #13 Adeline/5th/I-880 SB Ramps   |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 0          | 0    | 0     | 241        | 0    | 69    | 138       | 157  | 0     | 0         | 202  | 616   | 1423         |
| Added                            | 205        | 160  | 509   | 0          | 97   | 0     | 0         | 0    | 126   | 350       | 0    | 0     | 1446         |
| Total                            | 205        | 160  | 509   | 241        | 97   | 69    | 138       | 157  | 126   | 350       | 202  | 616   | 2869         |
| #14 Union/5th/I-880 NB Ramps     |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base                             | 0          | 194  | 281   | 0          | 144  | 30    | 31        | 97   | 18    | 32        | 31   | 34    | 892          |
| Added                            | 0          | 0    | 126   | 0          | 0    | 0     | 0         | 0    | 0     | 205       | 0    | 0     | 331          |
| Total                            | 0          | 194  | 407   | 0          | 144  | 30    | 31        | 97   | 18    | 237       | 31   | 34    | 1223         |

Table J.7-2 (Continued)

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| Volume<br>Type                     | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total<br>Volume |
|------------------------------------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|-----------------|
|                                    | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |                 |
| #15 7th/I-880 NB Ramp/Frontage Rd. |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base                               | 0          | 197  | 3     | 2          | 0    | 205   | 0         | 108  | 0     | 0         | 53   | 1     | 569             |
| Added                              | 391        | 0    | 0     | 0          | 0    | 181   | 258       | 6    | 0     | 0         | 2    | 0     | 838             |
| Total                              | 391        | 197  | 3     | 2          | 0    | 386   | 258       | 114  | 0     | 0         | 55   | 1     | 1407            |
| #16 7th/I-880 SB Ramp              |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base                               | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 7     | 378       | 0    | 0     | 385             |
| Added                              | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 264  | 534   | 0         | 574  | 0     | 1372            |
| Total                              | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 264  | 541   | 378       | 574  | 0     | 1757            |
| #17 14th/I-880 Frontage Rd.        |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base                               | 0          | 62   | 130   | 4          | 0    | 0     | 0         | 0    | 0     | 115       | 0    | 7     | 318             |
| Added                              | 0          | 258  | 0     | 0          | 181  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 439             |
| Total                              | 0          | 320  | 130   | 4          | 181  | 0     | 0         | 0    | 0     | 115       | 0    | 7     | 757             |
| #18 W.Grand/I-880 Frontage Rd.     |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base                               | 75         | 72   | 0     | 759        | 0    | 6     | 86        | 277  | 3     | 0         | 456  | 330   | 2064            |
| Added                              | 0          | 173  | 85    | 0          | 121  | 0     | 0         | 140  | 0     | 60        | 106  | 0     | 685             |
| Total                              | 75         | 245  | 85    | 759        | 121  | 6     | 86        | 417  | 3     | 60        | 562  | 330   | 2749            |
| #138                               |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base                               | 0          | -168 | 0     | 0          | -123 | -24   | -20       | 0    | 0     | 0         | 0    | 0     | -335            |
| Added                              | 0          | 168  | 0     | 0          | 123  | 24    | 20        | 0    | 0     | 0         | 0    | 0     | 335             |
| Total                              | 0          | 0    | 0     | 0          | 0    | -0    | 0         | 0    | 0     | 0         | 0    | 0     | 0               |
| #158                               |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base                               | 0          | -259 | -163  | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | -422            |
| Added                              | 0          | 259  | 163   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 422             |
| Total                              | 0          | 0    | -0    | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0               |
| #159                               |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base                               | -259       | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -105 | 0     | -364            |
| Added                              | 259        | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 105  | 0     | 365             |
| Total                              | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1               |
| #160                               |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base                               | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -105      | -259 | 0     | -364            |
| Added                              | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 105       | 259  | 0     | 365             |
| Total                              | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1               |
| #161                               |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base                               | 0          | 0    | 0     | 0          | -105 | 0     | 0         | 0    | -150  | 0         | 0    | 0     | -255            |
| Added                              | 0          | 0    | 0     | 0          | 105  | 0     | 0         | 0    | 150   | 0         | 0    | 0     | 256             |
| Total                              | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1               |

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PM Peak Hour

| Volume<br>Type | Northbound |      |       | Southbound |      |       | Eastbound |       |       | Westbound |      |       | Total<br>Volume |
|----------------|------------|------|-------|------------|------|-------|-----------|-------|-------|-----------|------|-------|-----------------|
|                | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru  | Right | Left      | Thru | Right |                 |
| #165           |            |      |       |            |      |       |           |       |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | -126 | 0     | 0         | 0     | -534  | 0         | 0    | 0     | -660            |
| Added          | 0          | 0    | 0     | 0          | 126  | 0     | 0         | 0     | 534   | 0         | 0    | 0     | 660             |
| Total          | 0          | 0    | 0     | 0          | -0   | 0     | 0         | 0     | -0    | 0         | 0    | 0     | -0              |
| #170           |            |      |       |            |      |       |           |       |       |           |      |       |                 |
| Base           | 0          | -205 | -391  | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0     | -596            |
| Added          | 0          | 205  | 391   | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0     | 597             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0     | 1               |
| #177           |            |      |       |            |      |       |           |       |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | -214 | 0     | 0         | -163  | 0     | 0         | 0    | 0     | -377            |
| Added          | 0          | 0    | 0     | 0          | 214  | 0     | 0         | 163   | 0     | 0         | 0    | 0     | 377             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | -0    | 0     | 0         | 0    | 0     | 0               |
| #178           |            |      |       |            |      |       |           |       |       |           |      |       |                 |
| Base           | 0          | -323 | 0     | 0          | 0    | 0     | -116      | -47   | 0     | 0         | 0    | 0     | -466            |
| Added          | 0          | 323  | 0     | 0          | 0    | 0     | 116       | 47    | 0     | 0         | 0    | 0     | 486             |
| Total          | 0          | -0   | 0     | 0          | 0    | 0     | -0        | 0     | 0     | 0         | 0    | 0     | -0              |
| #182           |            |      |       |            |      |       |           |       |       |           |      |       |                 |
| Base           | 0          | -439 | 0     | 0          | 0    | -297  | 0         | 0     | 0     | 0         | 0    | 0     | -736            |
| Added          | 0          | 439  | 0     | 0          | 0    | 297   | 0         | 0     | 0     | 0         | 0    | 0     | 736             |
| Total          | 0          | -0   | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0     | 0               |
| #201           |            |      |       |            |      |       |           |       |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | 0     | 0         | -1043 | 0     | 0         | 0    | 0     | -104            |
| Added          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 1043  | 0     | 0         | 0    | 0     | 1043            |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | -0    | 0     | 0         | 0    | 0     | -0              |
| #204           |            |      |       |            |      |       |           |       |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | -375       | -668 | 0     | 0         | 0     | 0     | 0         | 0    | 0     | -1043           |
| Added          | 0          | 0    | 0     | 375        | 668  | 0     | 0         | 0     | 0     | 0         | 0    | 0     | 1043            |
| Total          | 0          | 0    | 0     | -0         | -0   | 0     | 0         | 0     | 0     | 0         | 0    | 0     | -0              |
| #207           |            |      |       |            |      |       |           |       |       |           |      |       |                 |
| Base           | 0          | -463 | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | -278  | -741            |
| Added          | 0          | 463  | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 278   | 741             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | -0    | 0               |
| #214           |            |      |       |            |      |       |           |       |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0     | 0     | -350      | -391 | 0     | -741            |
| Added          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 350       | 391  | 0     | 741             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0     | 0     | -0        | 0    | 0     | 0               |

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| NOBLD-PM.CMD                   |            |      |       |            |      |       |           |      |       |           |      |       | Mon Nov 4, 1996 15:06:42 | Page 3-4 |
|--------------------------------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------------------------|----------|
| FISCO/Port Vision 2000 EIS/EIR |            |      |       |            |      |       |           |      |       |           |      |       | No Project Alternative   |          |
| PM Peak Hour                   |            |      |       |            |      |       |           |      |       |           |      |       |                          |          |
| Volume                         | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total                    |          |
| Type                           | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume                   |          |
| #217                           |            |      |       |            |      |       |           |      |       |           |      |       |                          |          |
| Base                           | 0          | 0    | 0     | 0          | -19  | 0     | 0         | -47  | 0     | 0         | 0    | 0     | -66                      |          |
| Added                          | 0          | 0    | 0     | 0          | 19   | 0     | 0         | 47   | 0     | 0         | 0    | 0     | 66                       |          |
| Total                          | 0          | 0    | 0     | 0          | -0   | 0     | 0         | 0    | 0     | 0         | 0    | 0     | -0                       |          |
| #218                           |            |      |       |            |      |       |           |      |       |           |      |       |                          |          |
| Base                           | 0          | -39  | 0     | 0          | 0    | 0     | -31       | -16  | 0     | 0         | 0    | 0     | -86                      |          |
| Added                          | 0          | 39   | 0     | 0          | 0    | 0     | 31        | 16   | 0     | 0         | 0    | 0     | 86                       |          |
| Total                          | 0          | -0   | 0     | 0          | 0    | 0     | -0        | 0    | 0     | 0         | 0    | 0     | -0                       |          |
| #219                           |            |      |       |            |      |       |           |      |       |           |      |       |                          |          |
| Base                           | 0          | -70  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -5   | 0     | -75                      |          |
| Added                          | 0          | 70   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 5    | 0     | 74                       |          |
| Total                          | 0          | -1   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -0   | 0     | -1                       |          |
| #220                           |            |      |       |            |      |       |           |      |       |           |      |       |                          |          |
| Base                           | 0          | 0    | 0     | 0          | -19  | -18   | 0         | 0    | 0     | 0         | -5   | 0     | -42                      |          |
| Added                          | 0          | 0    | 0     | 0          | 19   | 18    | 0         | 0    | 0     | 0         | 5    | 0     | 41                       |          |
| Total                          | 0          | 0    | 0     | 0          | -0   | -0    | 0         | 0    | 0     | 0         | -0   | 0     | -1                       |          |
| #225                           |            |      |       |            |      |       |           |      |       |           |      |       |                          |          |
| Base                           | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -278 | -5    | -283                     |          |
| Added                          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 278  | 5     | 282                      |          |
| Total                          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -0   | -0    | -1                       |          |
| #226                           |            |      |       |            |      |       |           |      |       |           |      |       |                          |          |
| Base                           | 0          | 0    | 0     | -16        | 0    | 0     | 0         | -375 | 0     | 0         | 0    | 0     | -391                     |          |
| Added                          | 0          | 0    | 0     | 16         | 0    | 0     | 0         | 375  | 0     | 0         | 0    | 0     | 391                      |          |
| Total                          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | -0   | 0     | 0         | 0    | 0     | 0                        |          |
| #244                           |            |      |       |            |      |       |           |      |       |           |      |       |                          |          |
| Base                           | 0          | 0    | 0     | 0          | 0    | -302  | -226      | -44  | 0     | 0         | -37  | 0     | -609                     |          |
| Added                          | 0          | 0    | 0     | 0          | 0    | 302   | 226       | 44   | 0     | 0         | 37   | 0     | 609                      |          |
| Total                          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0                        |          |

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|----------------------------------|---------|-----|-------|---------|------|-------|---------|------|-------|---------|-----|-------|--------------------------|----------|
| FISCO/Port Vision 2000 EIS/EIR   |         |     |       |         |      |       |         |      |       |         |     |       | No Project Alternative   |          |
| PM Peak Hour                     |         |     |       |         |      |       |         |      |       |         |     |       |                          |          |
| Link Volume Report               |         |     |       |         |      |       |         |      |       |         |     |       |                          |          |
| PM Peak Hour                     |         |     |       |         |      |       |         |      |       |         |     |       |                          |          |
| Volume                           | NB Link |     |       | SB Link |      |       | EB Link |      |       | WB Link |     |       | Total                    |          |
| Type                             | In      | Out | Total | In      | Out  | Total | In      | Out  | Total | In      | Out | Total | Volume                   |          |
| #3 Maritime/Burma                |         |     |       |         |      |       |         |      |       |         |     |       |                          |          |
| Base                             | 595     | 159 | 754   | 109     | 590  | 699   | 50      | 5    | 55    | 0       | 0   | 0     | 1508                     |          |
| Added                            | 315     | 211 | 526   | 329     | 506  | 836   | 192     | 119  | 310   | 0       | 0   | 0     | 1672                     |          |
| Total                            | 910     | 370 | 1280  | 438     | 1096 | 1535  | 242     | 124  | 365   | 0       | 0   | 0     | 3180                     |          |
| #4 Maritime/14th                 |         |     |       |         |      |       |         |      |       |         |     |       |                          |          |
| Base                             | 442     | 224 | 666   | 237     | 704  | 941   | 0       | 0    | 0     | 382     | 133 | 515   | 2122                     |          |
| Added                            | 416     | 422 | 839   | 211     | 315  | 526   | 430     | 320  | 751   | 0       | 0   | 0     | 2115                     |          |
| Total                            | 858     | 646 | 1505  | 448     | 1019 | 1467  | 430     | 320  | 751   | 382     | 133 | 515   | 4237                     |          |
| #5 Maritime/7th Ext.             |         |     |       |         |      |       |         |      |       |         |     |       |                          |          |
| Base                             | 36      | 74  | 110   | 75      | 223  | 298   | 297     | 111  | 408   | 0       | 0   | 0     | 816                      |          |
| Added                            | 419     | 440 | 859   | 422     | 416  | 839   | 22      | 6    | 28    | 0       | 0   | 0     | 1726                     |          |
| Total                            | 455     | 514 | 969   | 497     | 639  | 1137  | 319     | 117  | 436   | 0       | 0   | 0     | 2542                     |          |
| #6 7th/7th Ext.                  |         |     |       |         |      |       |         |      |       |         |     |       |                          |          |
| Base                             | 0       | 37  | 37    | 49      | 0    | 49    | 19      | 0    | 19    | 0       | 31  | 31    | 136                      |          |
| Added                            | 204     | 166 | 370   | 440     | 419  | 859   | 547     | 382  | 929   | 574     | 798 | 1372  | 3531                     |          |
| Total                            | 204     | 203 | 407   | 489     | 419  | 908   | 566     | 382  | 948   | 574     | 829 | 1403  | 3667                     |          |
| #7 Middle Harbor/Gate 2          |         |     |       |         |      |       |         |      |       |         |     |       |                          |          |
| Base                             | 324     | 225 | 549   | 0       | 0    | 0     | 346     | 183  | 529   | 182     | 444 | 626   | 1704                     |          |
| Added                            | 125     | 36  | 161   | 0       | 0    | 0     | 208     | 176  | 384   | 203     | 324 | 526   | 1071                     |          |
| Total                            | 449     | 261 | 710   | 0       | 0    | 0     | 554     | 359  | 913   | 385     | 768 | 1152  | 2775                     |          |
| #8 Adeline St./ 3rd St.          |         |     |       |         |      |       |         |      |       |         |     |       |                          |          |
| Base                             | 158     | 102 | 260   | 58      | 108  | 166   | 57      | 90   | 147   | 206     | 179 | 385   | 958                      |          |
| Added                            | 874     | 572 | 1446  | 572     | 874  | 1446  | 0       | 0    | 0     | 0       | 0   | 0     | 2892                     |          |
| Total                            | 1032    | 674 | 1706  | 630     | 982  | 1612  | 57      | 90   | 147   | 206     | 179 | 385   | 3850                     |          |
| #12 Maritime/W.Grand/I-880 Ramps |         |     |       |         |      |       |         |      |       |         |     |       |                          |          |
| Base                             | 23      | 233 | 256   | 55      | 56   | 111   | 684     | 647  | 1331  | 637     | 463 | 1100  | 2798                     |          |
| Added                            | 506     | 329 | 836   | 0       | 0    | 0     | 224     | 366  | 590   | 106     | 140 | 246   | 1672                     |          |
| Total                            | 529     | 562 | 1092  | 55      | 56   | 111   | 908     | 1013 | 1921  | 743     | 603 | 1346  | 4470                     |          |
| #13 Adeline/5th/I-880 SB Ramps   |         |     |       |         |      |       |         |      |       |         |     |       |                          |          |
| Base                             | 0       | 0   | 0     | 310     | 754  | 1064  | 295     | 271  | 566   | 818     | 398 | 1216  | 2846                     |          |
| Added                            | 874     | 572 | 1446  | 97      | 160  | 257   | 126     | 205  | 331   | 350     | 509 | 858   | 2892                     |          |
| Total                            | 874     | 572 | 1446  | 407     | 914  | 1321  | 421     | 476  | 897   | 1168    | 907 | 2074  | 5738                     |          |
| #14 Union/5th/I-880 NB Ramps     |         |     |       |         |      |       |         |      |       |         |     |       |                          |          |
| Base                             | 475     | 194 | 669   | 174     | 259  | 433   | 146     | 61   | 207   | 97      | 378 | 475   | 1784                     |          |
| Added                            | 126     | 205 | 331   | 0       | 0    | 0     | 0       | 0    | 0     | 205     | 126 | 331   | 662                      |          |
| Total                            | 601     | 399 | 1000  | 174     | 259  | 433   | 146     | 61   | 207   | 302     | 504 | 806   | 2446                     |          |



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| Volume<br>Type                     | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total<br>Volume |
|------------------------------------|---------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|-----------------|
|                                    | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total |                 |
| #15 7th/I-880 NB Ramp/Frontage Rd. |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base                               | 200     | 0    | 200   | 207     | 198  | 405   | 108     | 258  | 366   | 54      | 113  | 167   | 1138            |
| Added                              | 391     | 0    | 391   | 181     | 258  | 439   | 264     | 574  | 838   | 2       | 6    | 8     | 1677            |
| Total                              | 591     | 0    | 591   | 388     | 456  | 844   | 372     | 832  | 1204  | 56      | 119  | 175   | 2815            |
| #16 7th/I-880 SB Ramp              |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base                               | 0       | 385  | 385   | 0       | 0    | 0     | 7       | 0    | 7     | 378     | 0    | 378   | 770             |
| Added                              | 0       | 534  | 534   | 0       | 0    | 0     | 798     | 574  | 1372  | 574     | 264  | 838   | 2745            |
| Total                              | 0       | 919  | 919   | 0       | 0    | 0     | 805     | 574  | 1379  | 952     | 264  | 1216  | 3515            |
| #17 14th/I-880 Frontage Rd.        |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base                               | 192     | 115  | 307   | 4       | 69   | 73    | 0       | 0    | 0     | 122     | 134  | 256   | 636             |
| Added                              | 258     | 181  | 439   | 181     | 258  | 439   | 0       | 0    | 0     | 0       | 0    | 0     | 878             |
| Total                              | 450     | 296  | 746   | 185     | 327  | 512   | 0       | 0    | 0     | 122     | 134  | 256   | 1514            |
| #18 W.Grand/I-880 Frontage Rd.     |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base                               | 147     | 3    | 150   | 765     | 488  | 1253  | 366     | 537  | 903   | 786     | 1036 | 1822  | 4128            |
| Added                              | 258     | 181  | 439   | 121     | 173  | 294   | 140     | 106  | 246   | 166     | 225  | 391   | 1369            |
| Total                              | 405     | 184  | 589   | 886     | 661  | 1547  | 506     | 643  | 1149  | 952     | 1261 | 2213  | 5497            |
| #138                               |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base                               | -168    | -123 | -291  | -147    | -188 | -335  | -20     | -24  | -44   | 0       | 0    | 0     | -670            |
| Added                              | 168     | 123  | 291   | 147     | 188  | 335   | 20      | 24   | 44    | 0       | 0    | 0     | 670             |
| Total                              | 0       | 0    | 0     | -0      | 0    | 0     | 0       | -0   | 0     | 0       | 0    | 0     | 0               |
| #158                               |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base                               | -422    | 0    | -422  | 0       | -259 | -259  | 0       | 0    | 0     | 0       | -163 | -163  | -844            |
| Added                              | 422     | 0    | 422   | 0       | 259  | 259   | 0       | 0    | 0     | 0       | 163  | 163   | 844             |
| Total                              | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | -0   | -0    | 0               |
| #159                               |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base                               | -259    | 0    | -259  | 0       | 0    | 0     | 0       | -364 | -364  | -105    | 0    | -105  | -728            |
| Added                              | 259     | 0    | 259   | 0       | 0    | 0     | 0       | 365  | 365   | 105     | 0    | 105   | 729             |
| Total                              | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 1    | 1     | 0       | 0    | 0     | 1               |
| #160                               |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base                               | 0       | -105 | -105  | 0       | 0    | 0     | 0       | -259 | -259  | -364    | 0    | -364  | -728            |
| Added                              | 0       | 105  | 105   | 0       | 0    | 0     | 0       | 259  | 259   | 365     | 0    | 365   | 729             |
| Total                              | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 1       | 0    | 1     | 1               |
| #161                               |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base                               | 0       | -255 | -255  | -105    | 0    | -105  | -150    | 0    | -150  | 0       | 0    | 0     | -510            |
| Added                              | 0       | 256  | 256   | 105     | 0    | 105   | 150     | 0    | 150   | 0       | 0    | 0     | 511             |
| Total                              | 0       | 1    | 1     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 1               |

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No Project Alternative  
PM Peak Hour

| Volume<br>Type | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |       |       | Total<br>Volume |
|----------------|---------|------|-------|---------|------|-------|---------|------|-------|---------|-------|-------|-----------------|
|                | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out   | Total |                 |
| #165           |         |      |       |         |      |       |         |      |       |         |       |       |                 |
| Base           | 0       | -660 | -660  | -126    | 0    | -126  | -534    | 0    | -534  | 0       | 0     | 0     | -1320           |
| Added          | 0       | 660  | 660   | 126     | 0    | 126   | 534     | 0    | 534   | 0       | 0     | 0     | 1319            |
| Total          | 0       | -0   | -0    | -0      | 0    | -0    | -0      | 0    | -0    | 0       | 0     | 0     | -1              |
| #170           |         |      |       |         |      |       |         |      |       |         |       |       |                 |
| Base           | -596    | 0    | -596  | 0       | -205 | -205  | 0       | 0    | 0     | 0       | -391  | -391  | -1192           |
| Added          | 597     | 0    | 597   | 0       | 205  | 205   | 0       | 0    | 0     | 0       | 391   | 391   | 1193            |
| Total          | 1       | 0    | 1     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0     | 0     | 1               |
| #177           |         |      |       |         |      |       |         |      |       |         |       |       |                 |
| Base           | 0       | -214 | -214  | -214    | 0    | -214  | -163    | 0    | -163  | 0       | -163  | -163  | -754            |
| Added          | 0       | 214  | 214   | 214     | 0    | 214   | 163     | 0    | 163   | 0       | 163   | 163   | 755             |
| Total          | 0       | 0    | 0     | 0       | 0    | 0     | -0      | 0    | -0    | 0       | -0    | -0    | 1               |
| #178           |         |      |       |         |      |       |         |      |       |         |       |       |                 |
| Base           | -323    | 0    | -323  | 0       | -439 | -439  | -163    | 0    | -163  | 0       | -47   | -47   | -972            |
| Added          | 323     | 0    | 323   | 0       | 439  | 439   | 163     | 0    | 163   | 0       | 47    | 47    | 972             |
| Total          | -0      | 0    | -0    | 0       | -0   | -0    | -0      | 0    | -0    | 0       | 0     | 0     | -0              |
| #182           |         |      |       |         |      |       |         |      |       |         |       |       |                 |
| Base           | -439    | 0    | -439  | -297    | -439 | -736  | 0       | -297 | -297  | 0       | 0     | 0     | -1472           |
| Added          | 439     | 0    | 439   | 297     | 439  | 736   | 0       | 297  | 297   | 0       | 0     | 0     | 1472            |
| Total          | -0      | 0    | -0    | 0       | -0   | 0     | 0       | 0    | 0     | 0       | 0     | 0     | 0               |
| #201           |         |      |       |         |      |       |         |      |       |         |       |       |                 |
| Base           | 0       | 0    | 0     | 0       | 0    | 0     | -1043   | 0    | -1043 | 0       | -1043 | -1043 | -208            |
| Added          | 0       | 0    | 0     | 0       | 0    | 0     | 1043    | 0    | 1043  | 0       | 1043  | 1043  | 2085            |
| Total          | 0       | 0    | 0     | 0       | 0    | 0     | -0      | 0    | -0    | 0       | -0    | -0    | -1              |
| #204           |         |      |       |         |      |       |         |      |       |         |       |       |                 |
| Base           | 0       | -668 | -668  | -1043   | 0    | -1043 | 0       | 0    | 0     | 0       | -375  | -375  | -2086           |
| Added          | 0       | 668  | 668   | 1043    | 0    | 1043  | 0       | 0    | 0     | 0       | 375   | 375   | 2085            |
| Total          | 0       | -0   | -0    | -0      | 0    | -0    | 0       | 0    | 0     | 0       | -0    | -0    | -1              |
| #207           |         |      |       |         |      |       |         |      |       |         |       |       |                 |
| Base           | -463    | 0    | -463  | 0       | -741 | -741  | 0       | 0    | 0     | -278    | 0     | -278  | -1482           |
| Added          | 463     | 0    | 463   | 0       | 741  | 741   | 0       | 0    | 0     | 278     | 0     | 278   | 1482            |
| Total          | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | -0      | 0     | -0    | 0               |
| #214           |         |      |       |         |      |       |         |      |       |         |       |       |                 |
| Base           | 0       | -350 | -350  | 0       | 0    | 0     | 0       | -391 | -391  | -741    | 0     | -741  | -1482           |
| Added          | 0       | 350  | 350   | 0       | 0    | 0     | 0       | 391  | 391   | 741     | 0     | 741   | 1482            |
| Total          | 0       | -0   | -0    | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0     | 0     | 0               |

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|--------------------------------|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|----------|-------|--------|
| FISCO/Port Vision 2000 EIS/EIR |         |                          |       |         |      |       |         |      |       |         |          |       |        |
| No Project Alternative         |         |                          |       |         |      |       |         |      |       |         |          |       |        |
| PM Peak Hour                   |         |                          |       |         |      |       |         |      |       |         |          |       |        |
| Volume                         | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |          |       | Total  |
| Type                           | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out      | Total | Volume |
| #217                           |         |                          |       |         |      |       |         |      |       |         |          |       |        |
| Base                           | 0       | -19                      | -19   | -19     | 0    | -19   | -47     | 0    | -47   | 0       | -47      | -47   | -132   |
| Added                          | 0       | 19                       | 19    | 19      | 0    | 19    | 47      | 0    | 47    | 0       | 47       | 47    | 132    |
| Total                          | 0       | -0                       | -0    | -0      | 0    | -0    | 0       | 0    | 0     | 0       | 0        | 0     | -0     |
| #218                           |         |                          |       |         |      |       |         |      |       |         |          |       |        |
| Base                           | -39     | 0                        | -39   | 0       | -70  | -70   | -47     | 0    | -47   | 0       | -16      | -16   | -172   |
| Added                          | 39      | 0                        | 39    | 0       | 70   | 70    | 47      | 0    | 47    | 0       | 16       | 16    | 172    |
| Total                          | -0      | 0                        | -0    | 0       | -1   | -1    | 0       | 0    | 0     | 0       | 0        | 0     | -0     |
| #219                           |         |                          |       |         |      |       |         |      |       |         |          |       |        |
| Base                           | -70     | 0                        | -70   | 0       | -70  | -70   | 0       | -5   | -5    | -5      | 0        | -5    | -150   |
| Added                          | 70      | 0                        | 70    | 0       | 70   | 70    | 0       | 5    | 5     | 5       | 0        | 5     | 148    |
| Total                          | -1      | 0                        | -1    | 0       | -1   | -1    | 0       | -0   | -0    | -0      | 0        | -0    | -2     |
| #220                           |         |                          |       |         |      |       |         |      |       |         |          |       |        |
| Base                           | 0       | -19                      | -19   | -37     | 0    | -37   | 0       | -23  | -23   | -5      | 0        | -5    | -84    |
| Added                          | 0       | 19                       | 19    | 37      | 0    | 37    | 0       | 23   | 23    | 5       | 0        | 5     | 83     |
| Total                          | 0       | -0                       | -0    | -0      | 0    | -0    | 0       | -0   | -0    | -0      | 0        | -0    | -1     |
| #225                           |         |                          |       |         |      |       |         |      |       |         |          |       |        |
| Base                           | 0       | 0                        | 0     | 0       | -5   | -5    | 0       | -278 | -278  | -283    | 0        | -283  | -566   |
| Added                          | 0       | 0                        | 0     | 0       | 5    | 5     | 0       | 278  | 278   | 282     | 0        | 282   | 565    |
| Total                          | 0       | 0                        | 0     | 0       | -0   | -0    | 0       | -0   | -0    | -1      | 0        | -1    | -1     |
| #226                           |         |                          |       |         |      |       |         |      |       |         |          |       |        |
| Base                           | 0       | 0                        | 0     | -16     | 0    | -16   | -375    | 0    | -375  | 0       | -391     | -391  | -782   |
| Added                          | 0       | 0                        | 0     | 16      | 0    | 16    | 375     | 0    | 375   | 0       | 391      | 391   | 782    |
| Total                          | 0       | 0                        | 0     | 0       | 0    | 0     | -0      | 0    | -0    | 0       | 0        | 0     | 0      |
| #244                           |         |                          |       |         |      |       |         |      |       |         |          |       |        |
| Base                           | 0       | 0                        | 0     | -302    | -226 | -528  | -270    | -339 | -609  | -37     | -44      | -81   | -1218  |
| Added                          | 0       | 0                        | 0     | 302     | 226  | 528   | 270     | 339  | 609   | 37      | 44       | 81    | 1219   |
| Total                          | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0        | 0     | 1      |

| NOBLD-PM.CMD   |                                   | Mon Nov 4, 1996 15:06:42 |             |         |        |             |         | Page 5-1     |            |
|--|-----------------------------------|--------------------------|-------------|---------|--------|-------------|---------|--------------|------------|
| FISCO/Port Vision 2000 EIS/EIR<br>No Project Alternative<br>PM Peak Hour |                                   |                          |             |         |        |             |         |              |            |
| Impact Analysis Report<br>Level Of Service                               |                                   |                          |             |         |        |             |         |              |            |
| Intersection   |                                   | Base                     |             |         | Future |             |         | Change<br>in |            |
|  |                                   | LOS                      | Del/<br>Veh | V/<br>C | LOS    | Del/<br>Veh | V/<br>C |              |            |
| #  | 3 Maritime/Burma                  | B                        | 7.2         | 0.211   | B      | 9.9         | 0.305   | +            | 2.740 D/V  |
| #  | 4 Maritime/14th                   | C                        | 15.9        | 0.392   | C      | 19.7        | 0.728   | +            | 3.786 D/V  |
| #  | 5 Maritime/7th Ext.               | B                        | 6.0         | 0.156   | B      | 10.6        | 0.313   | +            | 4.678 D/V  |
| #  | 6 7th/7th Ext.                    | B                        | 5.8         | 0.018   | C      | 18.6        | 0.399   | +            | 12.831 D/V |
| #  | 7 Middle Harbor/Gate 2            | B                        | 13.5        | 0.296   | C      | 19.4        | 0.756   | +            | 5.938 D/V  |
| #  | 8 Adeline St./ 3rd St.            | C                        | 19.2        | 0.084   | D      | 38.1        | 0.613   | +            | 18.979 D/V |
| #  | 12 Maritime/W.Grand/I-880 Ramps   | B                        | 12.4        | 0.237   | C      | 18.6        | 0.415   | +            | 6.228 D/V  |
| #  | 13 Adeline/5th/I-880 SB Ramps     | C                        | 17.5        | 0.328   | C      | 20.4        | 0.522   | +            | 2.917 D/V  |
| #  | 14 Union/5th/I-880 NB Ramps       | B                        | 12.5        | 0.178   | C      | 16.3        | 0.214   | +            | 3.865 D/V  |
| #  | 15 7th/I-880 NB Ramp/Frontage Rd. | B                        | 11.2        | 0.079   | C      | 19.2        | 0.417   | +            | 7.984 D/V  |
| #  | 16 7th/I-880 SB Ramp              | A                        | 2.6         | 0.113   | B      | 6.3         | 0.466   | +            | 3.742 D/V  |
| #  | 17 14th/I-880 Frontage Rd.        | A                        | 1.9         | 0.000   | C      | 1.8         | 0.000   | +            | 0.000 V/C  |
| #  | 18 W.Grand/I-880 Frontage Rd.     | C                        | 21.1        | 0.505   | C      | 21.6        | 0.614   | +            | 0.458 D/V  |

Table J.7-2 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
No Project Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

## Intersection #3 Maritime/Burma

Cycle (sec): 100 Critical Vol./Cap. (X): 0.305  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 9.9  
Optimal Cycle: 58 Level Of Service: B

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |   |   |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|---|---|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T | R |
| Control:    | Protected   |    |    | Protected   |    |    | Protected  |    |    | Protected  |   |   |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |   |   |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 0          | 0 | 0 |
| Lanes:      | 1           | 0  | 1  | 1           | 0  | 1  | 1          | 0  | 1  | 0          | 0 | 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 5    | 590  | 0    | 0    | 109  | 0    | 0    | 0    | 50   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 5    | 590  | 0    | 0    | 109  | 0    | 0    | 0    | 50   | 0    | 0    | 0    |
| Added Vol:   | 0    | 315  | 0    | 0    | 211  | 119  | 192  | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 5    | 905  | 0    | 0    | 320  | 119  | 192  | 0    | 50   | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 5    | 905  | 0    | 0    | 320  | 119  | 192  | 0    | 50   | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 5    | 905  | 0    | 0    | 320  | 119  | 192  | 0    | 50   | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 5    | 950  | 0    | 0    | 336  | 125  | 192  | 0    | 50   | 0    | 0    | 0    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 1.00 | 0.96 | 0.96 | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 2.00 | 0.00 | 1.00 | 1.46 | 0.54 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 1805 | 3800 | 0    | 1900 | 2659 | 989  | 1805 | 0    | 1615 | 0    | 0    | 0    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.25 | 0.00 | 0.00 | 0.13 | 0.13 | 0.11 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.24 | 0.62 | 0.00 | 0.00 | 0.48 | 0.48 | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.01 | 0.40 | 0.00 | 0.00 | 0.26 | 0.26 | 0.53 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 18.7 | 6.3  | 0.0  | 0.0  | 10.0 | 10.0 | 24.3 | 0.0  | 21.4 | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 18.7 | 6.3  | 0.0  | 0.0  | 10.0 | 10.0 | 24.3 | 0.0  | 21.4 | 0.0  | 0.0  | 0.0  |
| Queue:       | 0    | 13   | 0    | 0    | 6    | 2    | 5    | 0    | 1    | 0    | 0    | 0    |

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No Project Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

## Intersection #4 Maritime/14th

Cycle (sec): 100 Critical Vol./Cap. (X): 0.728  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 19.7  
Optimal Cycle: 58 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Permitted  |    |    | Permitted  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Ovl        |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 1           | 0  | 1  | 1           | 0  | 1  | 1          | 0  | 1  | 0          | 1  | 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 414  | 28   | 105  | 132  | 0    | 0    | 0    | 0    | 92   | 0    | 290  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 414  | 28   | 105  | 132  | 0    | 0    | 0    | 0    | 92   | 0    | 290  |
| Added Vol:   | 229  | 187  | 0    | 0    | 120  | 91   | 128  | 0    | 303  | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 229  | 601  | 28   | 105  | 252  | 91   | 128  | 0    | 303  | 92   | 0    | 290  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 229  | 601  | 28   | 105  | 252  | 91   | 128  | 0    | 303  | 92   | 0    | 290  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 229  | 601  | 28   | 105  | 252  | 91   | 128  | 0    | 303  | 92   | 0    | 290  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 229  | 631  | 29   | 105  | 264  | 96   | 128  | 0    | 303  | 92   | 0    | 290  |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.99 | 0.99 | 0.95 | 0.96 | 0.96 | 0.51 | 1.00 | 0.51 | 0.40 | 1.00 | 0.85 |
| Lanes:      | 1.00 | 1.91 | 0.09 | 1.00 | 1.47 | 0.53 | 0.30 | 0.00 | 0.70 | 1.00 | 0.00 | 1.00 |
| Final Sat.: | 1805 | 3597 | 165  | 1805 | 2675 | 973  | 288  | 0    | 682  | 760  | 0    | 1615 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.13 | 0.18 | 0.18 | 0.06 | 0.10 | 0.10 | 0.44 | 0.00 | 0.44 | 0.12 | 0.00 | 0.18 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.16 | 0.24 | 0.24 | 0.12 | 0.20 | 0.20 | 0.56 | 0.00 | 0.72 | 0.56 | 0.00 | 0.56 |
| Volume/Cap:  | 0.79 | 0.73 | 0.73 | 0.48 | 0.49 | 0.49 | 0.79 | 0.00 | 0.62 | 0.22 | 0.00 | 0.32 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 35.7 | 24.8 | 24.8 | 27.9 | 23.4 | 23.4 | 16.7 | 0.0  | 5.8  | 7.2  | 0.0  | 7.7  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 35.7 | 24.8 | 24.8 | 27.9 | 23.4 | 23.4 | 16.7 | 0.0  | 5.8  | 7.2  | 0.0  | 7.7  |
| Queue:       | 7    | 17   | 1    | 3    | 7    | 2    | 4    | 0    | 5    | 1    | 0    | 4    |

## Table J.7-2 (Continued)

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PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime/7th Ext.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.313  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 10.6  
Optimal Cycle: 48 Level Of Service: B

| Approach:   | North Bound |   |    |   | South Bound |   |   |    | East Bound |    |    |   | West Bound |   |    |   |   |   |   |   |
|-------------|-------------|---|----|---|-------------|---|---|----|------------|----|----|---|------------|---|----|---|---|---|---|---|
| Movement:   | L           | - | T  | - | R           | L | - | T  | -          | R  | L  | - | T          | - | R  | L | - | T | - | R |
| Control:    | Protected   |   |    |   | Protected   |   |   |    | Protected  |    |    |   | Protected  |   |    |   |   |   |   |   |
| Rights:     | Include     |   |    |   | Ovl         |   |   |    | Ovl        |    |    |   | Include    |   |    |   |   |   |   |   |
| Min. Green: | 10          |   | 20 |   | 20          | 0 |   | 20 |            | 20 | 10 |   | 0          |   | 20 | 0 |   | 0 |   | 0 |
| Lanes:      | 1           | 0 | 1  | 1 | 0           | 0 | 0 | 1  | 1          | 0  | 1  | 0 | 0          | 0 | 1  | 0 | 0 | 0 | 0 | 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 36   | 0    | 0    | 0    | 0    | 75   | 223  | 0    | 74   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 36   | 0    | 0    | 0    | 0    | 75   | 223  | 0    | 74   | 0    | 0    | 0    |
| Added Vol:   | 5    | 413  | 0    | 0    | 421  | 1    | 3    | 0    | 19   | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 41   | 413  | 0    | 0    | 421  | 76   | 226  | 0    | 93   | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 41   | 413  | 0    | 0    | 421  | 76   | 226  | 0    | 93   | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 41   | 413  | 0    | 0    | 421  | 76   | 226  | 0    | 93   | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 41   | 434  | 0    | 0    | 443  | 80   | 226  | 0    | 93   | 0    | 0    | 0    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 1.00 | 0.98 | 0.98 | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 2.00 | 0.00 | 0.00 | 1.69 | 0.31 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 1805 | 3800 | 0    | 0    | 3154 | 570  | 1805 | 0    | 1615 | 0    | 0    | 0    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.02 | 0.11 | 0.00 | 0.00 | 0.14 | 0.14 | 0.13 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      |      | **** |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.10 | 0.53 | 0.00 | 0.00 | 0.43 | 0.82 | 0.39 | 0.00 | 0.49 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.23 | 0.21 | 0.00 | 0.00 | 0.32 | 0.17 | 0.32 | 0.00 | 0.12 | 0.00 | 0.00 | 0.00 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 26.9 | 7.9  | 0.0  | 0.0  | 12.1 | 1.2  | 14.0 | 0.0  | 9.0  | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 26.9 | 7.9  | 0.0  | 0.0  | 12.1 | 1.2  | 14.0 | 0.0  | 9.0  | 0.0  | 0.0  | 0.0  |
| Queue:       | 1    | 6    | 0    | 0    | 8    | 0    | 4    | 0    | 1    | 0    | 0    | 0    |

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FISCO/Port Vision 2000 EIS/EIR  
No Project Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th/7th Ext.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.399  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 18.6  
Optimal Cycle: 68 Level Of Service: C

| Approach:   | North Bound |   |    |   | South Bound |    |   |    | East Bound |    |    |   | West Bound |   |    |   |   |    |   |    |
|-------------|-------------|---|----|---|-------------|----|---|----|------------|----|----|---|------------|---|----|---|---|----|---|----|
| Movement:   | L           | - | T  | - | R           | L  | - | T  | -          | R  | L  | - | T          | - | R  | L | - | T  | - | R  |
| Control:    | Protected   |   |    |   | Protected   |    |   |    | Protected  |    |    |   | Protected  |   |    |   |   |    |   |    |
| Rights:     | Include     |   |    |   | Include     |    |   |    | Include    |    |    |   | Ovl        |   |    |   |   |    |   |    |
| Min. Green: | 10          |   | 20 |   | 20          | 10 |   | 20 |            | 20 | 10 |   | 20         |   | 20 | 0 |   | 20 |   | 20 |
| Lanes:      | 1           | 0 | 1  | 1 | 0           | 1  | 0 | 1  | 1          | 0  | 1  | 0 | 2          | 1 | 0  | 1 | 0 | 2  | 0 | 1  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 31   | 18   | 0    | 0    | 0    | 0    | 19   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 31   | 18   | 0    | 0    | 0    | 0    | 19   | 0    | 0    | 0    |
| Added Vol:   | 19   | 126  | 59   | 296  | 99   | 46   | 80   | 444  | 23   | 45   | 317  | 212  |      |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 19   | 126  | 59   | 327  | 117  | 46   | 80   | 444  | 42   | 45   | 317  | 212  |      |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 19   | 126  | 59   | 327  | 117  | 46   | 80   | 444  | 42   | 45   | 317  | 212  |      |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 19   | 126  | 59   | 327  | 117  | 46   | 80   | 444  | 42   | 45   | 317  | 212  |      |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.10 | 1.10 | 1.00 | 1.05 | 1.00 | 1.00 |
| Final Vol.:  | 19   | 132  | 62   | 327  | 122  | 48   | 80   | 488  | 46   | 45   | 333  | 212  |      |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.95 | 0.95 | 0.95 | 0.96 | 0.96 | 0.95 | 0.99 | 0.99 | 0.95 | 1.00 | 0.85 |
| Lanes:      | 1.00 | 1.36 | 0.64 | 1.00 | 1.44 | 0.56 | 1.00 | 2.74 | 0.26 | 1.00 | 2.00 | 1.00 |
| Final Sat.: | 1805 | 2456 | 1154 | 1805 | 2618 | 1030 | 1805 | 5157 | 486  | 1805 | 3800 | 1615 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.01 | 0.05 | 0.05 | 0.18 | 0.05 | 0.05 | 0.04 | 0.09 | 0.09 | 0.02 | 0.09 | 0.13 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.21 | 0.20 | 0.20 | 0.42 | 0.41 | 0.41 | 0.10 | 0.20 | 0.20 | 0.10 | 0.20 | 0.62 |
| Volume/Cap:  | 0.05 | 0.27 | 0.27 | 0.43 | 0.11 | 0.11 | 0.43 | 0.47 | 0.47 | 0.24 | 0.43 | 0.21 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 20.6 | 21.9 | 21.9 | 13.7 | 11.8 | 11.8 | 28.3 | 23.1 | 23.1 | 26.8 | 22.8 | 5.4  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 20.6 | 21.9 | 21.9 | 13.7 | 11.8 | 11.8 | 28.3 | 23.1 | 23.1 | 26.8 | 22.8 | 5.4  |
| Queue:       | 0    | 3    | 1    | 7    | 2    | 1    | 2    | 12   | 1    | 1    | 8    | 3    |



Table J.7-2 (Continued)

|  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
|--|--------------------------|--------------------------|------|-------------|------|------|------------|------|------|------------|-----------|------|---|---|---|---|---|---|
| NOBLD-PM.CMD   | Mon Nov 4, 1996 15:06:42 |                          |      |             |      |      |            |      |      |            | Page 10-1 |      |   |   |   |   |   |   |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| No Project Alternative                                 |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| PM Peak Hour   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Level Of Service Computation Report                    |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Intersection #7 Middle Harbor/Gate 2                   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      | 0.756      |           |      |   |   |   |   |   |   |
| Loss Time (sec):                                       | 0 (Y+R = 4 sec)          | Average Delay (sec/veh): |      |             |      |      |            |      |      | 19.4       |           |      |   |   |   |   |   |   |
| Optimal Cycle:   | 93                       | Level Of Service:        |      |             |      |      |            |      |      | C          |           |      |   |   |   |   |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound |      |      | West Bound |           |      |   |   |   |   |   |   |
| Movement:  | L                        | -                        | T    | -           | R    | L    | -          | T    | -    | R          | L         | -    | T | - | R |   |   |   |
| Control:   | Protected                |                          |      | Protected   |      |      | Protected  |      |      | Protected  |           |      |   |   |   |   |   |   |
| Rights:  | Include                  |                          |      | Include     |      |      | Include    |      |      | Include    |           |      |   |   |   |   |   |   |
| Min. Green:  | 10                       | 0                        | 20   | 0           | 0    | 0    | 0          | 20   | 20   | 10         | 20        | 0    |   |   |   |   |   |   |
| Lanes:   | 1                        | 0                        | 0    | 0           | 1    | 0    | 0          | 0    | 0    | 0          | 1         | 1    | 0 | 1 | 0 | 2 | 0 | 0 |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Volume Module:   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Base Vol:  | 95                       | 0                        | 229  | 0           | 0    | 0    | 0          | 215  | 131  | 94         | 88        | 0    |   |   |   |   |   |   |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |   |   |   |
| Initial Bse:   | 95                       | 0                        | 229  | 0           | 0    | 0    | 0          | 215  | 131  | 94         | 88        | 0    |   |   |   |   |   |   |
| Added Vol:   | 7                        | 0                        | 118  | 0           | 0    | 0    | 0          | 206  | 2    | 34         | 169       | 0    |   |   |   |   |   |   |
| PasserByVol:   | 117                      | 0                        | 176  | 0           | 0    | 0    | 0          | 0    | 176  | 264        | 0         | 0    |   |   |   |   |   |   |
| Initial Fut:   | 219                      | 0                        | 523  | 0           | 0    | 0    | 0          | 421  | 309  | 392        | 257       | 0    |   |   |   |   |   |   |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |   |   |   |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |   |   |   |
| PHF Volume:  | 219                      | 0                        | 523  | 0           | 0    | 0    | 0          | 421  | 309  | 392        | 257       | 0    |   |   |   |   |   |   |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |   |   |   |   |   |   |
| Reduced Vol:   | 219                      | 0                        | 523  | 0           | 0    | 0    | 0          | 421  | 309  | 392        | 257       | 0    |   |   |   |   |   |   |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |   |   |   |
| MLF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.05 | 1.05 | 1.00       | 1.05      | 1.00 |   |   |   |   |   |   |
| Final Vol.:  | 219                      | 0                        | 523  | 0           | 0    | 0    | 0          | 442  | 325  | 392        | 270       | 0    |   |   |   |   |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Saturation Flow Module:                                |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900      | 1900 |   |   |   |   |   |   |
| Adjustment:  | 0.95                     | 1.00                     | 0.85 | 1.00        | 1.00 | 1.00 | 1.00       | 0.94 | 0.94 | 0.95       | 1.00      | 1.00 |   |   |   |   |   |   |
| Lanes:   | 1.00                     | 0.00                     | 1.00 | 0.00        | 0.00 | 0.00 | 0.00       | 1.15 | 0.85 | 1.00       | 2.00      | 0.00 |   |   |   |   |   |   |
| Final Sat.:  | 1805                     | 0                        | 1615 | 0           | 0    | 0    | 0          | 2058 | 1514 | 1805       | 3800      | 0    |   |   |   |   |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Capacity Analysis Module:                              |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Vol/Sat:   | 0.12                     | 0.00                     | 0.32 | 0.00        | 0.00 | 0.00 | 0.00       | 0.21 | 0.21 | 0.22       | 0.07      | 0.00 |   |   |   |   |   |   |
| Crit Moves:  | ****                     |                          |      |             |      |      | ****       |      |      | ****       |           |      |   |   |   |   |   |   |
| Green/Cycle:   | 0.43                     | 0.00                     | 0.43 | 0.00        | 0.00 | 0.00 | 0.00       | 0.28 | 0.28 | 0.29       | 0.57      | 0.00 |   |   |   |   |   |   |
| Volume/Cap:  | 0.28                     | 0.00                     | 0.76 | 0.00        | 0.00 | 0.00 | 0.00       | 0.76 | 0.76 | 0.76       | 0.12      | 0.00 |   |   |   |   |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Level Of Service Module:                               |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Delay/Veh:   | 12.1                     | 0.0                      | 18.9 | 0.0         | 0.0  | 0.0  | 0.0        | 23.4 | 23.4 | 25.3       | 6.4       | 0.0  |   |   |   |   |   |   |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |   |   |   |
| AdjDel/Veh:  | 12.1                     | 0.0                      | 18.9 | 0.0         | 0.0  | 0.0  | 0.0        | 23.4 | 23.4 | 25.3       | 6.4       | 0.0  |   |   |   |   |   |   |
| Queue:   | 4                        | 0                        | 13   | 0           | 0    | 0    | 0          | 12   | 9    | 11         | 3         | 0    |   |   |   |   |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |

|  |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
|--|--------------------------|--------------------------|------|-------------|------|------|-------------|------|------|-------------|-----------|-------|--|--|
| NOBLD- PM.CMD  | Mon Nov 4, 1996 15:06:42 |                          |      |             |      |      |             |      |      |             | Page 11-1 |       |  |  |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| No Project Alternative                                 |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| PM Peak Hour   |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Level Of Service Computation Report                    |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| *****  |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Intersection #8 Adeline St./ 3rd St.                   |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| *****  |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |             |      |      |             |           | 0.613 |  |  |
| Loss Time (sec):                                       | 12 (Y+R = 4 sec)         | Average Delay (sec/veh): |      |             |      |      |             |      |      |             |           | 38.1  |  |  |
| Optimal Cycle:   | 92                       | Level Of Service:        |      |             |      |      |             |      |      |             |           | D     |  |  |
| *****  |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound  |      |      | West Bound  |           |       |  |  |
| Movement:  | L                        | T                        | R    | L           | T    | R    | L           | T    | R    | L           | T         | R     |  |  |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Control:   | Split Phase              |                          |      | Split Phase |      |      | Split Phase |      |      | Split Phase |           |       |  |  |
| Rights:  | Include                  |                          |      | Include     |      |      | Include     |      |      | Include     |           |       |  |  |
| Min. Green:  | 10                       | 20                       | 20   | 10          | 20   | 20   | 10          | 20   | 20   | 10          | 20        | 20    |  |  |
| Lanes:   | 0                        | 1                        | 0    | 1           | 0    | 0    | 0           | 1    | 0    | 1           | 0         | 0     |  |  |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Volume Module:   |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Base Vol:  | 36                       | 0                        | 122  | 43          | 0    | 15   | 30          | 14   | 13   | 89          | 39        | 78    |  |  |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00  |  |  |
| Initial Bse:   | 36                       | 0                        | 122  | 43          | 0    | 15   | 30          | 14   | 13   | 89          | 39        | 78    |  |  |
| Added Vol:   | 0                        | 874                      | 0    | 0           | 572  | 0    | 0           | 0    | 0    | 0           | 0         | 0     |  |  |
| PasserByVol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0           | 0    | 0    | 0           | 0         | 0     |  |  |
| Initial Fut:   | 36                       | 874                      | 122  | 43          | 572  | 15   | 30          | 14   | 13   | 89          | 39        | 78    |  |  |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00  |  |  |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00  |  |  |
| PHF Volume:  | 36                       | 874                      | 122  | 43          | 572  | 15   | 30          | 14   | 13   | 89          | 39        | 78    |  |  |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0           | 0    | 0    | 0           | 0         | 0     |  |  |
| Reduced Vol:   | 36                       | 874                      | 122  | 43          | 572  | 15   | 30          | 14   | 13   | 89          | 39        | 78    |  |  |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00  |  |  |
| MLF Adj:   | 1.05                     | 1.05                     | 1.05 | 1.05        | 1.05 | 1.05 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00  |  |  |
| Final Vol.:  | 38                       | 918                      | 128  | 45          | 601  | 16   | 30          | 14   | 13   | 89          | 39        | 78    |  |  |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Saturation Flow Module:                                |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900        | 1900 | 1900 | 1900        | 1900      | 1900  |  |  |
| Adjustment:  | 0.98                     | 0.98                     | 0.98 | 1.00        | 1.00 | 1.00 | 0.95        | 0.93 | 0.93 | 0.95        | 0.90      | 0.90  |  |  |
| Lanes:   | 0.07                     | 1.69                     | 0.24 | 0.14        | 1.81 | 0.05 | 1.00        | 0.52 | 0.48 | 0.84        | 0.39      | 0.77  |  |  |
| Final Sat.:  | 131                      | 3154                     | 440  | 258         | 3450 | 92   | 1805        | 916  | 851  | 1512        | 663       | 1325  |  |  |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Capacity Analysis Module:                              |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Vol/Sat:   | 0.29                     | 0.29                     | 0.29 | 0.17        | 0.17 | 0.17 | 0.02        | 0.02 | 0.02 | 0.06        | 0.06      | 0.06  |  |  |
| Crit Moves:  | ****                     |                          |      | ****        |      |      | ****        |      |      | ****        |           |       |  |  |
| Green/Cycle:   | 0.30                     | 0.30                     | 0.30 | 0.18        | 0.18 | 0.18 | 0.20        | 0.20 | 0.20 | 0.20        | 0.20      | 0.20  |  |  |
| Volume/Cap:  | 0.97                     | 0.97                     | 0.97 | 0.97        | 0.97 | 0.97 | 0.08        | 0.08 | 0.08 | 0.29        | 0.29      | 0.29  |  |  |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Level Of Service Module:                               |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |
| Delay/Veh:   | 37.1                     | 37.1                     | 37.1 | 46.3        | 46.3 | 46.3 | 21.0        | 21.0 | 21.0 | 22.0        | 22.0      | 22.0  |  |  |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00  |  |  |
| AdjDel/Veh:  | 37.1                     | 37.1                     | 37.1 | 46.3        | 46.3 | 46.3 | 21.0        | 21.0 | 21.0 | 22.0        | 22.0      | 22.0  |  |  |
| Queue:   | 2                        | 31                       | 6    | 3           | 21   | 1    | 1           | 0    | 0    | 2           | 1         | 2     |  |  |
| *****  |                          |                          |      |             |      |      |             |      |      |             |           |       |  |  |

## Table J.7-2 (Continued)

NOBI.D-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
No Project Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #12 Maritime/W.Grand/I-880 Ramps  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.415  
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 18.6  
Optimal Cycle: 70 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 2           | 0  | 0  | 1           | 0  | 0  | 1          | 0  | 1  | 1          | 0  | 1  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 23   | 0    | 9    | 23   | 23   | 20   | 454  | 210  | 0    | 624  | 13   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 23   | 0    | 9    | 23   | 23   | 20   | 454  | 210  | 0    | 624  | 13   |
| Added Vol:   | 366  | 0    | 140  | 0    | 0    | 0    | 0    | 0    | 224  | 106  | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 366  | 23   | 140  | 9    | 23   | 23   | 20   | 454  | 434  | 106  | 624  | 13   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 366  | 23   | 140  | 9    | 23   | 23   | 20   | 454  | 434  | 106  | 624  | 13   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 366  | 23   | 140  | 9    | 23   | 23   | 20   | 454  | 434  | 106  | 624  | 13   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.10 | 1.10 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 377  | 23   | 140  | 9    | 23   | 23   | 20   | 499  | 477  | 106  | 655  | 14   |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.87 | 0.87 | 0.95 | 0.93 | 0.93 | 0.95 | 0.93 | 0.93 | 0.95 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 0.14 | 0.86 | 1.00 | 0.50 | 0.50 | 1.00 | 1.53 | 1.47 | 1.00 | 1.96 | 0.04 |
| Final Sat.: | 3610 | 233  | 1420 | 1805 | 884  | 884  | 1805 | 2710 | 2591 | 1805 | 3720 | 80   |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.10 | 0.10 | 0.10 | 0.00 | 0.03 | 0.03 | 0.01 | 0.18 | 0.18 | 0.06 | 0.18 | 0.18 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.21 | 0.27 | 0.27 | 0.14 | 0.20 | 0.20 | 0.16 | 0.37 | 0.37 | 0.12 | 0.33 | 0.33 |
| Volume/Cap:  | 0.50 | 0.36 | 0.36 | 0.04 | 0.13 | 0.13 | 0.07 | 0.50 | 0.50 | 0.50 | 0.54 | 0.54 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 22.9 | 19.1 | 19.1 | 24.2 | 21.2 | 21.2 | 22.9 | 15.8 | 15.8 | 28.2 | 18.2 | 18.2 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 22.9 | 19.1 | 19.1 | 24.2 | 21.2 | 21.2 | 22.9 | 15.8 | 15.8 | 28.2 | 18.2 | 18.2 |
| Queue:       | 9    | 1    | 3    | 0    | 1    | 1    | 0    | 11   | 10   | 3    | 15   | 0    |

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FISCO/Port Vision 2000 EIS/EIR  
No Project Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #13 Adeline/5th/I-880 SB Ramps  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.522  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 20.4  
Optimal Cycle: 82 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound  |    |    | West Bound  |    |    |
|-------------|-------------|----|----|-------------|----|----|-------------|----|----|-------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L           | T  | R  | L           | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Split Phase |    |    | Split Phase |    |    |
| Rights:     | Ovl         |    |    | Include     |    |    | Include     |    |    | Include     |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10          | 10 | 20 | 10          | 20 | 20 |
| Lanes:      | 1           | 0  | 1  | 1           | 0  | 1  | 1           | 1  | 0  | 1           | 0  | 1  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 241  | 0    | 69   | 138  | 157  | 0    | 0    | 202  | 616  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 241  | 0    | 69   | 138  | 157  | 0    | 0    | 202  | 616  |
| Added Vol:   | 205  | 160  | 509  | 0    | 97   | 0    | 0    | 0    | 126  | 350  | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 205  | 160  | 509  | 241  | 97   | 69   | 138  | 157  | 126  | 350  | 202  | 616  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.50 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 205  | 160  | 509  | 241  | 97   | 69   | 138  | 157  | 126  | 350  | 202  | 308  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 205  | 160  | 509  | 241  | 97   | 69   | 138  | 157  | 126  | 350  | 202  | 308  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.05 | 1.10 | 1.10 | 1.10 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 205  | 160  | 509  | 241  | 101  | 72   | 152  | 173  | 138  | 350  | 212  | 323  |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 0.85 | 0.95 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.95 | 0.91 | 0.91 |
| Lanes:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.17 | 0.83 | 1.00 | 1.11 | 0.89 | 1.00 | 0.79 | 1.21 |
| Final Sat.: | 1805 | 1900 | 1615 | 1805 | 2085 | 1487 | 1788 | 1989 | 1586 | 1805 | 1370 | 2088 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.11 | 0.08 | 0.32 | 0.13 | 0.05 | 0.05 | 0.09 | 0.09 | 0.09 | 0.19 | 0.15 | 0.15 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.21 | 0.20 | 0.51 | 0.21 | 0.20 | 0.20 | 0.16 | 0.16 | 0.16 | 0.31 | 0.31 | 0.31 |
| Volume/Cap:  | 0.54 | 0.42 | 0.62 | 0.64 | 0.24 | 0.24 | 0.52 | 0.53 | 0.53 | 0.64 | 0.51 | 0.51 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 23.9 | 22.7 | 12.4 | 25.7 | 21.8 | 21.8 | 25.1 | 25.2 | 25.2 | 21.0 | 18.8 | 18.8 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 23.9 | 22.7 | 12.4 | 25.7 | 21.8 | 21.8 | 25.1 | 25.2 | 25.2 | 21.0 | 18.8 | 18.8 |
| Queue:       | 5    | 4    | 11   | 6    | 2    | 2    | 4    | 5    | 4    | 9    | 5    | 8    |

Table J.7-2 (Continued)

|  |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
|--|--|--------------------------|--|--------------------------|----------------|--|--|----------------|--|-------|----------------|--|--|
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| FISCO/Port Vision 2000 EIS/EIR                         |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| No Project Alternative                                 |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| PM Peak Hour   |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| Level Of Service Computation Report                    |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| 1994 HCM Operations Method (Future Volume Alternative) |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| *****  |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| Intersection #14 Union/5th/I-880 NB Ramps              |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| *****  |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| Cycle (sec):   |  | 100                      |  | Critical Vol./Cap. (X):  |                |  |  |                |  | 0.214 |                |  |  |
| Loss Time (sec):                                       |  | 11 (Y+R = 4 sec)         |  | Average Delay (sec/veh): |                |  |  |                |  | 16.3  |                |  |  |
| Optimal Cycle:   |  | 71                       |  | Level Of Service:        |                |  |  |                |  | C     |                |  |  |
| *****  |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| Approach:  |  | North Bound              |  |                          | South Bound    |  |  | East Bound     |  |       | West Bound     |  |  |
| Movement:  |  | L - T - R                |  |                          | L - T - R      |  |  | L - T - R      |  |       | L - T - R      |  |  |
| Control:   |  | Protected                |  |                          | Protected      |  |  | Split Phase    |  |       | Split Phase    |  |  |
| Rights:  |  | Include                  |  |                          | Include        |  |  | Include        |  |       | Include        |  |  |
| Min. Green:  |  | 0 20 20                  |  |                          | 0 20 20        |  |  | 10 20 20       |  |       | 10 20 20       |  |  |
| Lanes:   |  | 0 0 1 1 1                |  |                          | 0 0 1 1 0      |  |  | 0 1 0 1 0      |  |       | 1 0 1 1 0      |  |  |
| ----- ----- ----- ----- -----                          |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| Volume Module:   |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| Base Vol:  |  | 0 194 281                |  |                          | 0 144 30       |  |  | 31 97 18       |  |       | 32 31 34       |  |  |
| Growth Adj:  |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |       | 1.00 1.00 1.00 |  |  |
| Initial Bse:   |  | 0 194 281                |  |                          | 0 144 30       |  |  | 31 97 18       |  |       | 32 31 34       |  |  |
| Added Vol:   |  | 0 0 126                  |  |                          | 0 0 0          |  |  | 0 0 0          |  |       | 205 0 0        |  |  |
| PasserByVol:   |  | 0 0 0                    |  |                          | 0 0 0          |  |  | 0 0 0          |  |       | 0 0 0          |  |  |
| Initial Fut:   |  | 0 194 407                |  |                          | 0 144 30       |  |  | 31 97 18       |  |       | 237 31 34      |  |  |
| User Adj:  |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |       | 1.00 1.00 1.00 |  |  |
| PHF Adj:   |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |       | 1.00 1.00 1.00 |  |  |
| PHF Volume:  |  | 0 194 407                |  |                          | 0 144 30       |  |  | 31 97 18       |  |       | 237 31 34      |  |  |
| Reduct Vol:  |  | 0 0 0                    |  |                          | 0 0 0          |  |  | 0 0 0          |  |       | 0 0 0          |  |  |
| Reduced Vol:   |  | 0 194 407                |  |                          | 0 144 30       |  |  | 31 97 18       |  |       | 237 31 34      |  |  |
| PCE Adj:   |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |       | 1.00 1.00 1.00 |  |  |
| MLF Adj:   |  | 1.00 1.00 1.05           |  |                          | 1.00 1.05 1.05 |  |  | 1.05 1.05 1.05 |  |       | 1.00 1.00 1.00 |  |  |
| Final Vol.:  |  | 0 194 427                |  |                          | 0 151 32       |  |  | 33 102 19      |  |       | 237 31 34      |  |  |
| ----- ----- ----- ----- -----                          |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| Saturation Flow Module:                                |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| Sat/Lane:  |  | 1900 1900 1900           |  |                          | 1900 1900 1900 |  |  | 1900 1900 1900 |  |       | 1900 1900 1900 |  |  |
| Adjustment:  |  | 1.00 1.00 0.85           |  |                          | 1.00 0.97 0.97 |  |  | 0.97 0.97 0.97 |  |       | 0.95 1.00 0.85 |  |  |
| Lanes:   |  | 0.00 1.00 2.00           |  |                          | 0.00 1.65 0.35 |  |  | 0.43 1.32 0.25 |  |       | 1.00 1.00 1.00 |  |  |
| Final Sat.:  |  | 0 1900 3230              |  |                          | 0 3041 645     |  |  | 790 2442 455   |  |       | 1805 1900 1615 |  |  |
| ----- ----- ----- ----- -----                          |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| Capacity Analysis Module:                              |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| Vol/Sat:   |  | 0.00 0.10 0.13           |  |                          | 0.00 0.05 0.05 |  |  | 0.04 0.04 0.04 |  |       | 0.13 0.02 0.02 |  |  |
| Crit Moves:  |  | ****                     |  |                          | ****           |  |  | ****           |  |       | ****           |  |  |
| Green/Cycle:   |  | 0.00 0.35 0.35           |  |                          | 0.00 0.35 0.35 |  |  | 0.20 0.20 0.20 |  |       | 0.34 0.34 0.34 |  |  |
| Volume/Cap:  |  | 0.00 0.29 0.38           |  |                          | 0.00 0.14 0.14 |  |  | 0.21 0.21 0.21 |  |       | 0.38 0.05 0.06 |  |  |
| ----- ----- ----- ----- -----                          |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| Level Of Service Module:                               |  |                          |  |                          |                |  |  |                |  |       |                |  |  |
| Delay/Veh:   |  | 0.0 15.4 16.0            |  |                          | 0.0 14.5 14.5  |  |  | 21.6 21.6 21.6 |  |       | 16.2 14.1 14.2 |  |  |
| User DelAdj:   |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |       | 1.00 1.00 1.00 |  |  |
| AdjDel/Veh:  |  | 0.0 15.4 16.0            |  |                          | 0.0 14.5 14.5  |  |  | 21.6 21.6 21.6 |  |       | 16.2 14.1 14.2 |  |  |
| Queue:   |  | 0 4 9                    |  |                          | 0 3 1          |  |  | 1 2 0          |  |       | 5 1 1          |  |  |
| *****  |  |                          |  |                          |                |  |  |                |  |       |                |  |  |

|  |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
|--|------------------|--------------------------|------|-------------|------|-----------|------------|-------|------|------------|------|-------|---|-------|----|-------|---|-------|---|-------|
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| FISCO/Port Vision 2000 EIS/EIR                         |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| No Project Alternative                                 |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| PM Peak Hour   |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| -----  |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| Level Of Service Computation Report                    |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| 1994 HCM Operations Method (Future Volume Alternative) |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| *****  |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| Intersection #15 7th/I-880 NB Ramp/Frontage Rd.        |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| *****  |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| Cycle (sec):   | 100              | Critical Vol./Cap. (X):  |      |             |      |           |            | 0.417 |      |            |      |       |   |       |    |       |   |       |   |       |
| Loss Time (sec):                                       | 10 (Y+R = 4 sec) | Average Delay (sec/veh): |      |             |      |           |            | 19.2  |      |            |      |       |   |       |    |       |   |       |   |       |
| Optimal Cycle:   | 70               | Level Of Service:        |      |             |      |           |            | C     |      |            |      |       |   |       |    |       |   |       |   |       |
| *****  |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| Approach:  | North Bound      |                          |      | South Bound |      |           | East Bound |       |      | West Bound |      |       |   |       |    |       |   |       |   |       |
| Movement:  | L                | -                        | T    | -           | R    | L         | -          | T     | -    | R          | L    | -     | T | -     | R  | L     | - | T     | - | R     |
| -----  |                  | -----                    |      | -----       |      | -----     |            | ----- |      | -----      |      | ----- |   | ----- |    | ----- |   | ----- |   | ----- |
| Control:   | Protected        |                          |      | Protected   |      |           | Protected  |       |      | Protected  |      |       |   |       |    |       |   |       |   |       |
| Rights:  | Include          |                          |      | Ovl         |      |           | Include    |       |      | Include    |      |       |   |       |    |       |   |       |   |       |
| Min. Green:  | 10               | 20                       | 20   | 10          | 20   | 20        | 10         | 20    | 20   | 0          | 20   | 20    | 0 | 20    | 20 |       |   |       |   |       |
| Lanes:   | 1                | 0                        | 1    | 1           | 0    | 1         | 0          | 0     | 0    | 2          | 1    | 0     | 2 | 0     | 0  | 0     | 0 | 1     | 1 | 0     |
| -----  |                  | -----                    |      | -----       |      | -----     |            | ----- |      | -----      |      | ----- |   | ----- |    | ----- |   | ----- |   | ----- |
| Volume Module:   |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| Base Vol:  | 0                | 197                      | 3    | 2           | 0    | 205       | 0          | 108   | 0    | 0          | 53   | 1     |   |       |    |       |   |       |   |       |
| Growth Adj:  | 1.00             | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00      | 1.00       | 1.00  | 1.00 | 1.00       | 1.00 | 1.00  |   |       |    |       |   |       |   |       |
| Initial Bse:   | 0                | 197                      | 3    | 2           | 0    | 205       | 0          | 108   | 0    | 0          | 53   | 1     |   |       |    |       |   |       |   |       |
| Added Vol:   | 391              | 0                        | 0    | 0           | 0    | 181       | 258        | 6     | 0    | 0          | 2    | 0     |   |       |    |       |   |       |   |       |
| PasserByVol:   | 0                | 0                        | 0    | 0           | 0    | 0         | 0          | 0     | 0    | 0          | 0    | 0     |   |       |    |       |   |       |   |       |
| Initial Fut:   | 391              | 197                      | 3    | 2           | 0    | 386       | 258        | 114   | 0    | 0          | 55   | 1     |   |       |    |       |   |       |   |       |
| User Adj:  | 1.00             | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00      | 1.00       | 1.00  | 1.00 | 1.00       | 1.00 | 1.00  |   |       |    |       |   |       |   |       |
| PHF Adj:   | 1.00             | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00      | 1.00       | 1.00  | 1.00 | 1.00       | 1.00 | 1.00  |   |       |    |       |   |       |   |       |
| PHF Volume:  | 391              | 197                      | 3    | 2           | 0    | 386       | 258        | 114   | 0    | 0          | 55   | 1     |   |       |    |       |   |       |   |       |
| Reduct Vol:  | 0                | 0                        | 0    | 0           | 0    | 0         | 0          | 0     | 0    | 0          | 0    | 0     |   |       |    |       |   |       |   |       |
| Reduced Vol:   | 391              | 197                      | 3    | 2           | 0    | 386       | 258        | 114   | 0    | 0          | 55   | 1     |   |       |    |       |   |       |   |       |
| PCE Adj:   | 1.00             | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00      | 1.00       | 1.00  | 1.00 | 1.00       | 1.00 | 1.00  |   |       |    |       |   |       |   |       |
| MLF Adj:   | 1.00             | 1.05                     | 1.05 | 1.00        | 1.00 | 1.13      | 1.00       | 1.05  | 1.00 | 1.00       | 1.05 | 1.05  |   |       |    |       |   |       |   |       |
| Final Vol.:  | 391              | 207                      | 3    | 2           | 0    | 436       | 258        | 120   | 0    | 0          | 58   | 1     |   |       |    |       |   |       |   |       |
| -----  |                  | -----                    |      | -----       |      | -----     |            | ----- |      | -----      |      | ----- |   | ----- |    | ----- |   | ----- |   | ----- |
| Saturation Flow Module:                                |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| Sat/Lane:  | 1900             | 1900                     | 1900 | 1900        | 1900 | 1900      | 1900       | 1900  | 1900 | 1900       | 1900 | 1900  |   |       |    |       |   |       |   |       |
| Adjustment:  | 0.95             | 1.00                     | 1.00 | 0.95        | 1.00 | 0.85      | 0.95       | 1.00  | 1.00 | 1.00       | 1.00 | 1.00  |   |       |    |       |   |       |   |       |
| Lanes:   | 1.00             | 1.97                     | 0.03 | 1.00        | 0.00 | 2.00      | 1.00       | 2.00  | 0.00 | 0.00       | 1.97 | 0.03  |   |       |    |       |   |       |   |       |
| Final Sat.:  | 1805             | 3746                     | 54   | 1805        | 0    | 3230      | 1805       | 3800  | 0    | 0          | 3736 | 64    |   |       |    |       |   |       |   |       |
| -----  |                  | -----                    |      | -----       |      | -----     |            | ----- |      | -----      |      | ----- |   | ----- |    | ----- |   | ----- |   | ----- |
| Capacity Analysis Module:                              |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| Vol/Sat:   | 0.22             | 0.06                     | 0.06 | 0.00        | 0.00 | 0.13      | 0.14       | 0.03  | 0.00 | 0.00       | 0.02 | 0.02  |   |       |    |       |   |       |   |       |
| Crit Moves:  | ****             |                          |      | ****        |      |           | ****       |       |      |            | **** |       |   |       |    |       |   |       |   |       |
| Green/Cycle:   | 0.30             | 0.33                     | 0.33 | 0.17        | 0.00 | 0.40      | 0.20       | 0.40  | 0.00 | 0.00       | 0.20 | 0.20  |   |       |    |       |   |       |   |       |
| Volume/Cap:  | 0.72             | 0.17                     | 0.17 | 0.01        | 0.00 | 0.34      | 0.72       | 0.08  | 0.00 | 0.00       | 0.08 | 0.08  |   |       |    |       |   |       |   |       |
| -----  |                  | -----                    |      | -----       |      | -----     |            | ----- |      | -----      |      | ----- |   | ----- |    | ----- |   | ----- |   | ----- |
| Level Of Service Module:                               |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |
| Delay/Veh:   | 23.3             | 15.2                     | 15.2 | 22.4        | 0.0  | 13.6      | 28.9       | 12.1  | 0.0  | 0.0        | 21.0 | 21.0  |   |       |    |       |   |       |   |       |
| User DelAdj:   | 1.00             | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00      | 1.00       | 1.00  | 1.00 | 1.00       | 1.00 | 1.00  |   |       |    |       |   |       |   |       |
| AdjDel/Veh:  | 23.3             | 15.2                     | 15.2 | 22.4        | 0.0  | 13.6      | 28.9       | 12.1  | 0.0  | 0.0        | 21.0 | 21.0  |   |       |    |       |   |       |   |       |
| Queue:   | 10               | 4                        | 0    | 0           | 0    | 8         | 7          | 2     | 0    | 0          | 1    | 0     |   |       |    |       |   |       |   |       |
| *****  |                  |                          |      |             |      |           |            |       |      |            |      |       |   |       |    |       |   |       |   |       |



Table J.7-2 (Continued)

NOBLD-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
No Project Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #16 7th/I-880 SB Ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.466  
Loss Time (sec): 5 (Y+R = 4 sec) Average Delay (sec/veh): 6.3  
Optimal Cycle: 35 Level Of Service: B

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Protected   | Protected   | Protected  | Protected  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 20 20    | 10 20 20   |
| Lanes:      | 0 0 0 0 0   | 0 0 0 0 0   | 0 0 2 0 1  | 2 0 2 0 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 7    | 378  | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 7    | 378  | 0    | 0    |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 264  | 534  | 0    | 574  |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 264  | 541  | 378  | 574  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 264  | 541  | 378  | 574  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 264  | 541  | 378  | 574  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 | 1.03 | 1.05 |
| Final Vol.:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 278  | 541  | 389  | 603  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.95 | 1.00 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 1.00 | 2.00 | 2.00 |
| Final Sat.: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 3800 | 1615 | 3610 | 3800 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.33 | 0.11 | 0.16 | 0.00 |
| Crit Moves:  |      |      |      |      |      |      |      | **** | **** |      |      |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.72 | 0.72 | 0.23 | 0.95 | 0.00 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.47 | 0.47 | 0.17 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 2.8  | 4.1  | 21.7 | 0.1  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 2.8  | 4.1  | 21.7 | 0.1  | 0.0  |
| Queue:       | 0    | 0    | 0    | 0    | 0    | 0    | 2    | 6    | 9    | 1    | 0    |

NOBLD-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
No Project Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #17 14th/I-880 Frontage Rd.

Average Delay (sec/veh): 1.8 Worst Case Level Of Service: C

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 0 1 1 0    | 1 0 2 0 0    | 0 0 0 0 0  | 1 0 0 0 1  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 62   | 130  | 4    | 0    | 0    | 0    | 0    | 0    | 115  | 0    | 7    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 62   | 130  | 4    | 0    | 0    | 0    | 0    | 0    | 115  | 0    | 7    |
| Added Vol:   | 0    | 258  | 0    | 0    | 181  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 320  | 130  | 4    | 181  | 0    | 0    | 0    | 0    | 115  | 0    | 7    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 320  | 130  | 4    | 181  | 0    | 0    | 0    | 0    | 115  | 0    | 7    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 320  | 130  | 4    | 181  | 0    | 0    | 0    | 0    | 115  | 0    | 7    |

Adjusted Volume Module:

|               |      |      |      |      |
|---------------|------|------|------|------|
| Grade:        | 0%   | 0%   | 0%   | 0%   |
| % Cycle/Cars: | xxxx | xxxx | xxxx | xxxx |
| % Truck/Comb: | xxxx | xxxx | xxxx | xxxx |
| PCE Adj:      | 1.10 | 1.00 | 1.00 | 1.10 |
| Cycl/Car PCE: | xxxx | xxxx | xxxx | xxxx |
| Trck/Cmb PCE: | xxxx | xxxx | xxxx | xxxx |
| Adj Vol.:     | 0    | 320  | 130  | 4    |

Critical Gap Module:

|                   |      |       |       |       |       |       |       |       |       |       |       |
|-------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| MoveUp Time:xxxxx | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| Critical Gp:xxxxx | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |

Capacity Module:

|              |      |      |       |      |      |       |      |      |       |      |      |      |
|--------------|------|------|-------|------|------|-------|------|------|-------|------|------|------|
| Cnflct Vol:  | xxxx | xxxx | xxxxx | 450  | xxxx | xxxxx | xxxx | xxxx | xxxxx | 570  | xxxx | 225  |
| Potent Cap.: | xxxx | xxxx | xxxxx | 983  | xxxx | xxxxx | xxxx | xxxx | xxxxx | 458  | xxxx | 1065 |
| Adj Cap:     | xxxx | xxxx | xxxxx | 1.00 | xxxx | xxxxx | xxxx | xxxx | xxxxx | 1.00 | xxxx | 1.00 |
| Move Cap.:   | xxxx | xxxx | xxxxx | 983  | xxxx | xxxxx | xxxx | xxxx | xxxxx | 455  | xxxx | 1065 |

Level Of Service Module:

|                   |               |               |               |               |               |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del:xxxxx | xxxx          | xxxxx         | xxxxx         | 3.7           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | 10.6          | xxxx          | 3.4           |
| LOS by Move:      | *             | *             | *             | A             | *             | *             | *             | *             | *             | C             | *             | A             |
| Movement:         | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.:      | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         |
| Shrd StpDel:xxxxx | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| Shared LOS:       | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel:      | 0.0           |               |               | 0.1           |               |               | 0.0           |               |               | 10.2          |               |               |



Table J.7-2 (Continued)

NOBLD-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR

No Project Alternative

PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #18 W.Grand/I-880 Frontage Rd.

\*\*\*\*\*  
 Cycle (sec): 100 Critical Vol./Cap. (X): 0.614  
 Loss Time (sec): 11 (Y+R = 4 sec) Average Delay (sec/veh): 21.6  
 Optimal Cycle: 81 Level Of Service: C  
 \*\*\*\*\*

| Approach:   | North Bound |    |    |   | South Bound |    |    |   | East Bound |    |    |   | West Bound |    |    |  |
|-------------|-------------|----|----|---|-------------|----|----|---|------------|----|----|---|------------|----|----|--|
| Movement:   | L           | T  | R  |   | L           | T  | R  |   | L          | T  | R  |   | L          | T  | R  |  |
| Control:    | Split Phase |    |    |   | Split Phase |    |    |   | Protected  |    |    |   | Protected  |    |    |  |
| Rights:     | Include     |    |    |   | Include     |    |    |   | Include    |    |    |   | Include    |    |    |  |
| Min. Green: | 10          | 20 | 20 |   | 10          | 20 | 20 |   | 10         | 20 | 20 |   | 10         | 20 | 20 |  |
| Lanes:      | 1           | 0  | 1  | 1 | 0           | 1  | 1  | 0 | 1          | 0  | 1  | 1 | 0          | 1  | 1  |  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 75   | 72   | 0    | 759  | 0    | 6    | 86   | 277  | 3    | 0    | 456  | 330  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 75   | 72   | 0    | 759  | 0    | 6    | 86   | 277  | 3    | 0    | 456  | 330  |
| Added Vol:   | 0    | 173  | 85   | 0    | 121  | 0    | 0    | 140  | 0    | 60   | 106  | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 75   | 245  | 85   | 759  | 121  | 6    | 86   | 417  | 3    | 60   | 562  | 330  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 75   | 245  | 85   | 759  | 121  | 6    | 86   | 417  | 3    | 60   | 562  | 330  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 75   | 245  | 85   | 759  | 121  | 6    | 86   | 417  | 3    | 60   | 562  | 330  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.05 | 1.05 | 1.00 | 1.10 | 1.10 |
| Final Vol.:  | 75   | 257  | 89   | 797  | 121  | 6    | 86   | 438  | 3    | 60   | 618  | 363  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.96 | 0.96 | 0.95 | 0.99 | 0.99 | 0.95 | 1.00 | 1.00 | 0.95 | 0.94 | 0.94 |
| Lanes:      | 1.00 | 1.49 | 0.51 | 2.00 | 0.95 | 0.05 | 1.00 | 1.99 | 0.01 | 1.00 | 1.89 | 1.11 |
| Final Sat.: | 1805 | 2710 | 938  | 3610 | 1792 | 89   | 1805 | 3774 | 26   | 1805 | 3375 | 1983 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.04 | 0.09 | 0.09 | 0.22 | 0.07 | 0.07 | 0.05 | 0.12 | 0.12 | 0.03 | 0.18 | 0.18 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.20 | 0.20 | 0.20 | 0.32 | 0.32 | 0.32 | 0.10 | 0.24 | 0.24 | 0.12 | 0.27 | 0.27 |
| Volume/Cap:  | 0.21 | 0.47 | 0.47 | 0.68 | 0.21 | 0.21 | 0.48 | 0.47 | 0.47 | 0.27 | 0.68 | 0.68 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 21.6 | 23.2 | 23.2 | 20.0 | 15.9 | 15.9 | 29.0 | 21.1 | 21.1 | 25.9 | 22.2 | 22.2 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 21.6 | 23.2 | 23.2 | 20.0 | 15.9 | 15.9 | 29.0 | 21.1 | 21.1 | 25.9 | 22.2 | 22.2 |
| Queue:       | 2    | 6    | 2    | 20   | 2    | 0    | 2    | 10   | 0    | 2    | 16   | 10   |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

Trip Generation Report

Forecast for AM Peak Hour

| Zone # | Subzone          | Amount  | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|--------|------------------|---------|----------------|---------|----------|----------|-----------|-------------|------------|
| 1      | New Harbor       | 1018.00 | Employees      | 0.26    | 0.05     | 265      | 51        | 316         | 5.1        |
|        | Zone 1 Subtotal  |         |                |         |          | 265      | 51        | 316         | 5.1        |
| 3      | J.I.T.           | 360.00  | Employees      | 0.40    | 0.09     | 144      | 32        | 176         | 2.9        |
|        | Zone 3 Subtotal  |         |                |         |          | 144      | 32        | 176         | 2.9        |
| 6      | Middle Harbr     | 516.00  | Employees      | 0.26    | 0.05     | 134      | 26        | 160         | 2.6        |
|        | Zone 6 Subtotal  |         |                |         |          | 134      | 26        | 160         | 2.6        |
| 7      | 7th St Harbr     | 613.00  | Employees      | 0.26    | 0.05     | 159      | 31        | 190         | 3.1        |
|        | Zone 7 Subtotal  |         |                |         |          | 159      | 31        | 190         | 3.1        |
| 8      | Outer Harbor     | 706.00  | Employees      | 0.26    | 0.05     | 184      | 35        | 219         | 3.5        |
|        | Zone 8 Subtotal  |         |                |         |          | 184      | 35        | 219         | 3.5        |
| 10     | New Park         | 1.00    | Total Trips    | 15.00   | 15.00    | 15       | 15        | 30          | 0.5        |
|        | Zone 10 Subtotal |         |                |         |          | 15       | 15        | 30          | 0.5        |
| 11     | New Harbor       | 1.00    | Trucks Inter   | 248.00  | 264.00   | 248      | 264       | 512         | 8.3        |
|        | Zone 11 Subtotal |         |                |         |          | 248      | 264       | 512         | 8.3        |
| 16     | Middle Harbr     | 1.00    | Trucks Inter   | 125.00  | 133.00   | 125      | 133       | 258         | 4.2        |
|        | Zone 16 Subtotal |         |                |         |          | 125      | 133       | 258         | 4.2        |
| 17     | 7th St Harbr     | 1.00    | Trucks Inter   | 149.00  | 159.00   | 149      | 159       | 308         | 5.0        |
|        | Zone 17 Subtotal |         |                |         |          | 149      | 159       | 308         | 5.0        |
| 18     | Outer Harbor     | 1.00    | Trucks Inter   | 172.00  | 183.00   | 172      | 183       | 355         | 5.8        |
|        | Zone 18 Subtotal |         |                |         |          | 172      | 183       | 355         | 5.8        |
| 21     | New Harbor       | 1.00    | Truck External | 476.00  | 508.00   | 476      | 508       | 984         | 15.9       |
|        | Zone 21 Subtotal |         |                |         |          | 476      | 508       | 984         | 15.9       |
| 23     | J.I.T.           | 1.00    | Truck External | 431.00  | 459.00   | 431      | 459       | 890         | 14.4       |
|        | Zone 23 Subtotal |         |                |         |          | 431      | 459       | 890         | 14.4       |
| 26     | Middle Harbr     | 1.00    | Truck External | 241.00  | 257.00   | 241      | 257       | 498         | 8.1        |
|        | Zone 26 Subtotal |         |                |         |          | 241      | 257       | 498         | 8.1        |
| 27     | 7th St Harbr     | 1.00    | Truck External | 287.00  | 306.00   | 287      | 306       | 593         | 9.6        |
|        | Zone 27 Subtotal |         |                |         |          | 287      | 306       | 593         | 9.6        |
| 28     | Outer Harbor     | 1.00    | Truck External | 331.00  | 352.00   | 331      | 352       | 683         | 11.1       |

Table J7-3

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

| Zone # | Subzone          | Amount | Units | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|--------|------------------|--------|-------|---------|----------|----------|-----------|-------------|------------|
|        | Zone 28 Subtotal |        |       |         |          | 331      | 352       | 683         | 11.1       |

TOTAL 3361 2811 6172 100.0

Table J7-3 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

## Trip Distribution Report

## Percent Of Trips Existing

| Zone | To Gates |     |     |     |      |      |      |      |       |
|------|----------|-----|-----|-----|------|------|------|------|-------|
|      | 3        | 4   | 5   | 11  | 12   | 13   | 14   | 15   | 16    |
| 1    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 3    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 6    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 7    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 8    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 10   | 0.0      | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 100.0 |
| 11   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 16   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 17   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 18   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 21   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 23   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 26   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 27   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 28   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

Turning Movement Report  
AM Peak Hour

| Volume                                      | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total  |
|---|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------|
| Type  | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume |
| #3 Maritime St./ Burma St.                  |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 5          | 78   | 0     | 0          | 287  | 0     | 0         | 0    | 5     | 0         | 0    | 0     | 375    |
| Added                                       | 0          | 253  | 0     | 0          | 385  | 180   | 109       | 0    | 0     | 0         | 0    | 0     | 928    |
| Total                                       | 5          | 331  | 0     | 0          | 672  | 180   | 109       | 0    | 5     | 0         | 0    | 0     | 1303   |
| #4 Maritime St./ 14th St.                   |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 91   | 39    | 103        | 261  | 0     | 0         | 0    | 0     | 22        | 0    | 87    | 603    |
| Added                                       | 399        | 169  | 0     | 0          | 277  | 108   | 84        | 0    | 377   | 0         | 0    | 0     | 1414   |
| Total                                       | 399        | 260  | 39    | 103        | 538  | 108   | 84        | 0    | 377   | 22        | 0    | 87    | 2017   |
| #5 Maritime St./ 7th St. Extension          |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 159        | 0    | 0     | 0          | 0    | 334   | 69        | 0    | 37    | 0         | 0    | 0     | 599    |
| Added                                       | 910        | 337  | 0     | 0          | 383  | 271   | 231       | 0    | 829   | 0         | 0    | 0     | 2961   |
| Total                                       | 1069       | 337  | 0     | 0          | 383  | 605   | 300       | 0    | 866   | 0         | 0    | 0     | 3560   |
| #6 7th St./ 7th St. Extension               |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 54    | 54     |
| Added                                       | 0          | 0    | 0     | 625        | 0    | 586   | 533       | 306  | 0     | 0         | 367  | 715   | 3133   |
| Total                                       | 0          | 0    | 0     | 625        | 0    | 586   | 533       | 306  | 0     | 0         | 367  | 769   | 3187   |
| #7  |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 53         | 0    | 45    | 0          | 0    | 0     | 0         | 0    | 39    | 208       | 338  | 0     | 683    |
| Added                                       | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 495  | 0     | 0         | 645  | 0     | 1140   |
| Total                                       | 53         | 0    | 45    | 0          | 0    | 0     | 0         | 495  | 39    | 208       | 983  | 0     | 1823   |
| #8 Adeline St./ 3rd St.                     |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 8          | 0    | 31    | 26         | 0    | 26    | 8         | 6    | 29    | 50        | 59   | 56    | 299    |
| Added                                       | 0          | 778  | 0     | 0          | 1020 | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1798   |
| Total                                       | 8          | 778  | 31    | 26         | 1020 | 26    | 8         | 6    | 29    | 50        | 59   | 56    | 2097   |
| #9 7th/Middle Harbor Rd                     |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 1     | 1      |
| Added                                       | 17         | 0    | 332   | 0          | 0    | 0     | 0         | 508  | 3     | 361       | 593  | 0     | 1814   |
| Total                                       | 17         | 0    | 332   | 0          | 0    | 0     | 0         | 508  | 3     | 361       | 593  | 1     | 1815   |
| #10 New Harbor/Mid Harbor Rd                |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0      |
| Added                                       | 332        | 0    | 491   | 0          | 0    | 0     | 0         | 3    | 361   | 628       | 17   | 0     | 1833   |
| Total                                       | 332        | 0    | 491   | 0          | 0    | 0     | 0         | 3    | 361   | 628       | 17   | 0     | 1833   |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 33   | 0     | 16         | 28   | 47    | 48        | 394  | 438   | 0         | 300  | 9     | 1313   |
| Added                                       | 298        | 0    | 65    | 0          | 0    | 0     | 0         | 0    | 483   | 82        | 0    | 0     | 928    |
| Total                                       | 298        | 33   | 65    | 16         | 28   | 47    | 48        | 394  | 921   | 82        | 300  | 9     | 2241   |

# Table J7-3 (Continued)

|  |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
|--|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|----------|--|
| A-AM.CMD                                   |            | Tue Nov 5, 1996 13:15:11 |       |            |      |       |           |      |       |           |      |       | Page 3-2 |  |
| FISCO/Port Vision 2000 EIS/EIR             |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
| Maximum Marine/Maximum Rail Alternative    |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
| AM Peak Hour                               |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
| Volume                                     | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total    |  |
| Type                                       | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume   |  |
| #13 Adeline St./ 5th St./ I-880 SB Ramp    |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
| Base                                       | 0          | 0                        | 0     | 72         | 109  | 165   | 256       | 51   | 0     | 0         | 169  | 364   | 1186     |  |
| Added                                      | 195        | 150                      | 433   | 0          | 203  | 0     | 0         | 0    | 264   | 554       | 0    | 0     | 1798     |  |
| Total                                      | 195        | 150                      | 433   | 72         | 312  | 165   | 256       | 51   | 264   | 554       | 169  | 364   | 2984     |  |
| #14 Union St./ 5th St./ I-880 North Ramps  |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
| Base                                       | 0          | 175                      | 45    | 0          | 154  | 31    | 24        | 43   | 13    | 205       | 31   | 115   | 836      |  |
| Added                                      | 0          | 0                        | 264   | 0          | 0    | 0     | 0         | 0    | 0     | 195       | 0    | 0     | 459      |  |
| Total                                      | 0          | 175                      | 309   | 0          | 154  | 31    | 24        | 43   | 13    | 400       | 31   | 115   | 1295     |  |
| #15 7th St./ I-880 NB Ramps / Frontage Rd. |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
| Base                                       | 0          | 548                      | 21    | 17         | 0    | 94    | 0         | 16   | 0     | 0         | 62   | 1     | 759      |  |
| Added                                      | 707        | 0                        | 0     | 0          | 0    | 354   | 313       | 4    | 0     | 0         | 20   | 0     | 1400     |  |
| Total                                      | 707        | 548                      | 21    | 17         | 0    | 448   | 313       | 20   | 0     | 0         | 82   | 1     | 2159     |  |
| #16 7th St./ I-880 SB Ramps                |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
| Base                                       | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 65        | 0    | 0     | 65       |  |
| Added                                      | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 318  | 614   | 0         | 1082 | 0     | 2013     |  |
| Total                                      | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 318  | 614   | 65        | 1082 | 0     | 2078     |  |
| #17 14th St./ I-880 Frontage Rd.           |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
| Base                                       | 0          | 0                        | 89    | 30         | 0    | 0     | 0         | 0    | 0     | 140       | 0    | 6     | 265      |  |
| Added                                      | 0          | 313                      | 0     | 0          | 354  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 668      |  |
| Total                                      | 0          | 313                      | 89    | 30         | 354  | 0     | 0         | 0    | 0     | 140       | 0    | 6     | 933      |  |
| #18 W.Grand Ave./ I-880 Frontage Rd.       |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
| Base                                       | 9          | 0                        | 0     | 678        | 48   | 6     | 65        | 234  | 12    | 0         | 152  | 449   | 1653     |  |
| Added                                      | 0          | 164                      | 149   | 0          | 195  | 0     | 0         | 65   | 0     | 159       | 82   | 0     | 814      |  |
| Total                                      | 9          | 164                      | 149   | 678        | 243  | 6     | 65        | 299  | 12    | 159       | 234  | 449   | 2467     |  |
| #134                                       |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
| Base                                       | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0        |  |
| Added                                      | 0          | 0                        | 694   | 0          | 0    | 0     | 0         | 491  | 0     | 739       | 575  | 0     | 2499     |  |
| Total                                      | 0          | 0                        | 694   | 0          | 0    | 0     | 0         | 491  | 0     | 739       | 575  | 0     | 2499     |  |
| #138                                       |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
| Base                                       | 0          | -156                     | 0     | 0          | -173 | -26   | -24       | 0    | 0     | 0         | 0    | 0     | -379     |  |
| Added                                      | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0        |  |
| Total                                      | 0          | -156                     | 0     | 0          | -173 | -26   | -24       | 0    | 0     | 0         | 0    | 0     | -379     |  |
| #158                                       |            |                          |       |            |      |       |           |      |       |           |      |       |          |  |
| Base                                       | 0          | -180                     | -129  | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | -309     |  |
| Added                                      | 0          | 210                      | 118   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 327      |  |
| Total                                      | 0          | 30                       | -11   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 18       |  |

|   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
|---|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|----------|--------|
| A-AM.CMD                                |            | Tue Nov 5, 1996 13:15:11 |       |            |      |       |           |      |       |           |      | Page 3-3 |        |
| FISCO/Port Vision 2000 EIS/EIR          |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Maximum Marine/Maximum Rail Alternative |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| AM Peak Hour                            |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Volume                                  | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |          | Total  |
| Type                                    | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right    | Volume |
| #159                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                    | -180       | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -178 | 0        | -358   |
| Added                                   | 210        | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 173  | 0        | 382    |
| Total                                   | 30         | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -5   | 0        | 24     |
| #160                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -178      | -180 | 0        | -358   |
| Added                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 173       | 210  | 0        | 382    |
| Total                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -5        | 30   | 0        | 24     |
| #161                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | -178 | 0     | 0         | 0    | -286  | 0         | 0    | 0        | -464   |
| Added                                   | 0          | 0                        | 0     | 0          | 173  | 0     | 0         | 0    | 363   | 0         | 0    | 0        | 535    |
| Total                                   | 0          | 0                        | 0     | 0          | -5   | 0     | 0         | 0    | 77    | 0         | 0    | 0        | 71     |
| #165                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | -227 | 0     | 0         | 0    | -495  | 0         | 0    | 0        | -722   |
| Added                                   | 0          | 0                        | 0     | 0          | 264  | 0     | 0         | 0    | 614   | 0         | 0    | 0        | 878    |
| Total                                   | 0          | 0                        | 0     | 0          | 37   | 0     | 0         | 0    | 119   | 0         | 0    | 0        | 156    |
| #170                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                    | 0          | -153                     | -564  | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -717   |
| Added                                   | 0          | 195                      | 707   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 903    |
| Total                                   | 0          | 42                       | 143   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 186    |
| #177                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | -351 | 0     | 0         | -129 | 0     | 0         | 0    | 0        | -480   |
| Added                                   | 0          | 0                        | 0     | 0          | 406  | 0     | 0         | 118  | 0     | 0         | 0    | 0        | 524    |
| Total                                   | 0          | 0                        | 0     | 0          | 55   | 0     | 0         | -11  | 0     | 0         | 0    | 0        | 44     |
| #178                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                    | 0          | -266                     | 0     | 0          | 0    | 0     | -104      | -25  | 0     | 0         | 0    | 0        | -395   |
| Added                                   | 0          | 330                      | 0     | 0          | 0    | 0     | 76        | 41   | 0     | 0         | 0    | 0        | 447    |
| Total                                   | 0          | 64                       | 0     | 0          | 0    | 0     | -28       | 16   | 0     | 0         | 0    | 0        | 52     |
| #182                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                    | 0          | -370                     | 0     | 0          | 0    | -475  | 0         | 0    | 0     | 0         | 0    | 0        | -845   |
| Added                                   | 0          | 406                      | 0     | 0          | 0    | 504   | 0         | 0    | 0     | 0         | 0    | 0        | 910    |
| Total                                   | 0          | 36                       | 0     | 0          | 0    | 29    | 0         | 0    | 0     | 0         | 0    | 0        | 65     |
| #201                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | -932 | 0     | 0         | 0    | 0        | -932   |
| Added                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 1047 | 0     | 0         | 0    | 0        | 1047   |
| Total                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 115  | 0     | 0         | 0    | 0        | 115    |



Table J7-3 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

| Volume<br>Type | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total<br>Volume |
|----------------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|-----------------|
|                | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |                 |
| #204           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | -352       | -580 | 0     | 0         | 0    | 0     | 0         | 0    | 0     | -932            |
| Added          | 0          | 0    | 0     | 392        | 655  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1047            |
| Total          | 0          | 0    | 0     | 40         | 75   | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 115             |
| #207           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | -714 | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | -396  | -1110           |
| Added          | 0          | 831  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 430   | 1261            |
| Total          | 0          | 117  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 34    | 151             |
| #214           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -546      | -564 | 0     | -1110           |
| Added          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 554       | 707  | 0     | 1261            |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 8         | 143  | 0     | 151             |
| #217           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | -45  | 0     | 0         | -25  | 0     | 0         | 0    | 0     | -70             |
| Added          | 0          | 0    | 0     | 0          | 25   | 0     | 0         | 41   | 0     | 0         | 0    | 0     | 66              |
| Total          | 0          | 0    | 0     | 0          | -20  | 0     | 0         | 16   | 0     | 0         | 0    | 0     | -4              |
| #218           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | -21  | 0     | 0          | 0    | 0     | -21       | -4   | 0     | 0         | 0    | 0     | -46             |
| Added          | 0          | 9    | 0     | 0          | 0    | 0     | 37        | 4    | 0     | 0         | 0    | 0     | 50              |
| Total          | 0          | -12  | 0     | 0          | 0    | 0     | 16        | -0   | 0     | 0         | 0    | 0     | 4               |
| #219           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | -43  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -20  | 0     | -63             |
| Added          | 0          | 46   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 20   | 0     | 67              |
| Total          | 0          | 3    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 4               |
| #220           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | -45  | -34   | 0         | 0    | 0     | 0         | -20  | 0     | -99             |
| Added          | 0          | 0    | 0     | 0          | 25   | 55    | 0         | 0    | 0     | 0         | 20   | 0     | 100             |
| Total          | 0          | 0    | 0     | 0          | -20  | 21    | 0         | 0    | 0     | 0         | 0    | 0     | 1               |
| #225           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -396 | -20   | -416            |
| Added          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 430  | 20    | 451             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 34   | 0     | 35              |
| #226           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | -4         | 0    | 0     | 0         | -352 | 0     | 0         | 0    | 0     | -356            |
| Added          | 0          | 0    | 0     | 4          | 0    | 0     | 0         | 392  | 0     | 0         | 0    | 0     | 396             |
| Total          | 0          | 0    | 0     | -0         | 0    | 0     | 0         | 40   | 0     | 0         | 0    | 0     | 40              |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

| Volume<br>Type | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total<br>Volume |
|----------------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|-----------------|
|                | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |                 |
| #244           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | -288  | -312      | -47  | 0     | 0         | -45  | 0     | -692            |
| Added          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0               |
| Total          | 0          | 0    | 0     | 0          | 0    | -288  | -312      | -47  | 0     | 0         | -45  | 0     | -692            |

## Table J7-3 (Continued)

|   |         |                          |       |         |      |       |         |      |       |         |     |          |        |
|---|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|-----|----------|--------|
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| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Maximum Rail Alternative<br>AM Peak Hour |         |                          |       |         |      |       |         |      |       |         |     |          |        |
| Link Volume Report<br>AM Peak Hour  |         |                          |       |         |      |       |         |      |       |         |     |          |        |
| Volume  | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |     |          | Total  |
| Type  | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out | Total    | Volume |
| #3 Maritime St./ Burma St.  |         |                          |       |         |      |       |         |      |       |         |     |          |        |
| Base  | 83      | 292                      | 375   | 287     | 78   | 365   | 5       | 5    | 10    | 0       | 0   | 0        | 750    |
| Added   | 253     | 385                      | 638   | 565     | 363  | 928   | 109     | 180  | 289   | 0       | 0   | 0        | 1855   |
| Total   | 336     | 677                      | 1013  | 852     | 441  | 1293  | 114     | 185  | 299   | 0       | 0   | 0        | 2605   |
| #4 Maritime St./ 14th St.   |         |                          |       |         |      |       |         |      |       |         |     |          |        |
| Base  | 130     | 283                      | 413   | 364     | 178  | 542   | 0       | 0    | 0     | 109     | 142 | 251      | 1206   |
| Added   | 569     | 654                      | 1222  | 385     | 253  | 638   | 461     | 507  | 968   | 0       | 0   | 0        | 2829   |
| Total   | 699     | 937                      | 1635  | 749     | 431  | 1180  | 461     | 507  | 968   | 109     | 142 | 251      | 4035   |
| #5 Maritime St./ 7th St. Extension  |         |                          |       |         |      |       |         |      |       |         |     |          |        |
| Base  | 159     | 37                       | 196   | 334     | 69   | 403   | 106     | 493  | 599   | 0       | 0   | 0        | 1198   |
| Added   | 1248    | 1211                     | 2459  | 654     | 569  | 1222  | 1060    | 1181 | 2241  | 0       | 0   | 0        | 5922   |
| Total   | 1407    | 1248                     | 2655  | 988     | 638  | 1625  | 1166    | 1674 | 2840  | 0       | 0   | 0        | 7120   |
| #6 7th St./ 7th St. Extension   |         |                          |       |         |      |       |         |      |       |         |     |          |        |
| Base  | 0       | 0                        | 0     | 0       | 54   | 54    | 0       | 0    | 0     | 54      | 0   | 54       | 108    |
| Added   | 0       | 0                        | 0     | 1211    | 1248 | 2459  | 839     | 954  | 1793  | 1082    | 931 | 2013     | 6265   |
| Total   | 0       | 0                        | 0     | 1211    | 1302 | 2513  | 839     | 954  | 1793  | 1136    | 931 | 2067     | 6373   |
| #7  |         |                          |       |         |      |       |         |      |       |         |     |          |        |
| Base  | 98      | 247                      | 345   | 0       | 0    | 0     | 39      | 391  | 430   | 546     | 45  | 591      | 1366   |
| Added   | 0       | 0                        | 0     | 0       | 0    | 0     | 495     | 645  | 1140  | 645     | 495 | 1140     | 2280   |
| Total   | 98      | 247                      | 345   | 0       | 0    | 0     | 534     | 1036 | 1570  | 1191    | 540 | 1731     | 3646   |
| #8 Adeline St./ 3rd St.   |         |                          |       |         |      |       |         |      |       |         |     |          |        |
| Base  | 39      | 79                       | 118   | 52      | 64   | 116   | 43      | 93   | 136   | 165     | 63  | 228      | 598    |
| Added   | 778     | 1020                     | 1798  | 1020    | 778  | 1798  | 0       | 0    | 0     | 0       | 0   | 0        | 3596   |
| Total   | 817     | 1099                     | 1916  | 1072    | 842  | 1914  | 43      | 93   | 136   | 165     | 63  | 228      | 4194   |
| #9 7th/Middle Harbor Rd   |         |                          |       |         |      |       |         |      |       |         |     |          |        |
| Base  | 0       | 0                        | 0     | 0       | 1    | 1     | 0       | 0    | 0     | 1       | 0   | 1        | 2      |
| Added   | 349     | 365                      | 714   | 0       | 0    | 0     | 511     | 610  | 1121  | 954     | 839 | 1793     | 3628   |
| Total   | 349     | 365                      | 714   | 0       | 1    | 1     | 511     | 610  | 1121  | 955     | 839 | 1794     | 3630   |
| #10 New Harbor/Mid Harbor Rd  |         |                          |       |         |      |       |         |      |       |         |     |          |        |
| Base  | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0   | 0        | 0      |
| Added   | 823     | 989                      | 1812  | 0       | 0    | 0     | 365     | 349  | 714   | 645     | 495 | 1140     | 3666   |
| Total   | 823     | 989                      | 1812  | 0       | 0    | 0     | 365     | 349  | 714   | 645     | 495 | 1140     | 3666   |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps   |         |                          |       |         |      |       |         |      |       |         |     |          |        |
| Base  | 33      | 466                      | 499   | 91      | 90   | 181   | 880     | 347  | 1227  | 309     | 410 | 719      | 2626   |
| Added   | 363     | 565                      | 928   | 0       | 0    | 0     | 483     | 298  | 781   | 82      | 65  | 147      | 1855   |
| Total   | 396     | 1031                     | 1427  | 91      | 90   | 181   | 1363    | 645  | 2008  | 391     | 475 | 866      | 4481   |

|  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
|--|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|------|----------|--------|
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| FISCO/Port Vision 2000 EIS/EIR             |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Maximum Marine/Maximum Rail Alternative    |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| AM Peak Hour                               |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Volume                                     | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |      |          | Total  |
| Type                                       | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total    | Volume |
| #13 Adeline St./ 5th St./ I-880 SB Ramp    |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 0       | 109                      | 109   | 346     | 620  | 966   | 307     | 334  | 641   | 533     | 123  | 656      | 2372   |
| Added                                      | 778     | 1020                     | 1798  | 203     | 150  | 352   | 264     | 195  | 459   | 554     | 433  | 987      | 3596   |
| Total                                      | 778     | 1129                     | 1907  | 549     | 770  | 1318  | 571     | 529  | 1100  | 1087    | 556  | 1643     | 5968   |
| #14 Union St./ 5th St./ I-880 North Ramps  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 220     | 372                      | 592   | 185     | 314  | 499   | 80      | 62   | 142   | 351     | 88   | 439      | 1672   |
| Added                                      | 264     | 195                      | 459   | 0       | 0    | 0     | 0       | 0    | 0     | 195     | 264  | 459      | 918    |
| Total                                      | 484     | 567                      | 1051  | 185     | 314  | 499   | 80      | 62   | 142   | 546     | 352  | 898      | 2590   |
| #15 7th St./ I-880 NB Ramps / Frontage Rd. |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 569     | 0                        | 569   | 111     | 549  | 660   | 16      | 156  | 172   | 63      | 54   | 117      | 1518   |
| Added                                      | 707     | 0                        | 707   | 354     | 313  | 668   | 318     | 1082 | 1400  | 20      | 4    | 25       | 2799   |
| Total                                      | 1276    | 0                        | 1276  | 465     | 862  | 1328  | 334     | 1238 | 1572  | 83      | 58   | 142      | 4317   |
| #16 7th St./ I-880 SB Ramps                |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 0       | 65                       | 65    | 0       | 0    | 0     | 0       | 0    | 0     | 65      | 0    | 65       | 130    |
| Added                                      | 0       | 614                      | 614   | 0       | 0    | 0     | 931     | 1082 | 2013  | 1082    | 318  | 1400     | 4027   |
| Total                                      | 0       | 679                      | 679   | 0       | 0    | 0     | 931     | 1082 | 2013  | 1147    | 318  | 1465     | 4157   |
| #17 14th St./ I-880 Frontage Rd.           |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 89      | 140                      | 229   | 30      | 6    | 36    | 0       | 0    | 0     | 146     | 119  | 265      | 530    |
| Added                                      | 313     | 354                      | 668   | 354     | 313  | 668   | 0       | 0    | 0     | 0       | 0    | 0        | 1335   |
| Total                                      | 402     | 494                      | 897   | 384     | 319  | 704   | 0       | 0    | 0     | 146     | 119  | 265      | 1865   |
| #18 W.Grand Ave./ I-880 Frontage Rd.       |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 9       | 60                       | 69    | 732     | 514  | 1246  | 311     | 167  | 478   | 601     | 912  | 1513     | 3306   |
| Added                                      | 313     | 354                      | 668   | 195     | 164  | 359   | 65      | 82   | 147   | 241     | 214  | 455      | 1629   |
| Total                                      | 322     | 414                      | 737   | 927     | 678  | 1605  | 376     | 249  | 625   | 842     | 1126 | 1968     | 4935   |
| #134                                       |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0        | 0      |
| Added                                      | 694     | 739                      | 1433  | 0       | 0    | 0     | 491     | 575  | 1066  | 1314    | 1185 | 2499     | 4998   |
| Total                                      | 694     | 739                      | 1433  | 0       | 0    | 0     | 491     | 575  | 1066  | 1314    | 1185 | 2499     | 4998   |
| #138                                       |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | -156    | -173                     | -329  | -199    | -180 | -379  | -24     | -26  | -50   | 0       | 0    | 0        | -758   |
| Added                                      | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0        | 0      |
| Total                                      | -156    | -173                     | -329  | -199    | -180 | -379  | -24     | -26  | -50   | 0       | 0    | 0        | -758   |
| #158                                       |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | -309    | 0                        | -309  | 0       | -180 | -180  | 0       | 0    | 0     | 0       | -129 | -129     | -618   |
| Added                                      | 327     | 0                        | 327   | 0       | 210  | 210   | 0       | 0    | 0     | 0       | 118  | 118      | 654    |
| Total                                      | 18      | 0                        | 18    | 0       | 30   | 30    | 0       | 0    | 0     | 0       | -11  | -11      | 36     |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

| Volume Type | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total Volume |
|-------------|---------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|--------------|
|             | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total |              |
| #159        |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base        | -180    | 0    | -180  | 0       | 0    | 0     | 0       | -358 | -358  | -178    | 0    | -178  | -716         |
| Added       | 210     | 0    | 210   | 0       | 0    | 0     | 0       | 382  | 382   | 173     | 0    | 173   | 764          |
| Total       | 30      | 0    | 30    | 0       | 0    | 0     | 0       | 24   | 24    | -5      | 0    | -5    | 48           |
| #160        |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base        | 0       | -178 | -178  | 0       | 0    | 0     | 0       | -180 | -180  | -358    | 0    | -358  | -716         |
| Added       | 0       | 173  | 173   | 0       | 0    | 0     | 0       | 210  | 210   | 382     | 0    | 382   | 764          |
| Total       | 0       | -5   | -5    | 0       | 0    | 0     | 0       | 30   | 30    | 24      | 0    | 24    | 48           |
| #161        |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base        | 0       | -464 | -464  | -178    | 0    | -178  | -286    | 0    | -286  | 0       | 0    | 0     | -928         |
| Added       | 0       | 535  | 535   | 173     | 0    | 173   | 363     | 0    | 363   | 0       | 0    | 0     | 1071         |
| Total       | 0       | 71   | 71    | -5      | 0    | -5    | 77      | 0    | 77    | 0       | 0    | 0     | 143          |
| #165        |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base        | 0       | -722 | -722  | -227    | 0    | -227  | -495    | 0    | -495  | 0       | 0    | 0     | -1444        |
| Added       | 0       | 878  | 878   | 264     | 0    | 264   | 614     | 0    | 614   | 0       | 0    | 0     | 1755         |
| Total       | 0       | 156  | 156   | 37      | 0    | 37    | 119     | 0    | 119   | 0       | 0    | 0     | 311          |
| #170        |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base        | -717    | 0    | -717  | 0       | -153 | -153  | 0       | 0    | 0     | 0       | -564 | -564  | -1434        |
| Added       | 903     | 0    | 903   | 0       | 195  | 195   | 0       | 0    | 0     | 0       | 707  | 707   | 1805         |
| Total       | 186     | 0    | 186   | 0       | 42   | 42    | 0       | 0    | 0     | 0       | 143  | 143   | 371          |
| #177        |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base        | 0       | -351 | -351  | -351    | 0    | -351  | -129    | 0    | -129  | 0       | -129 | -129  | -960         |
| Added       | 0       | 406  | 406   | 406     | 0    | 406   | 118     | 0    | 118   | 0       | 118  | 118   | 1048         |
| Total       | 0       | 55   | 55    | 55      | 0    | 55    | -11     | 0    | -11   | 0       | -11  | -11   | 88           |
| #178        |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base        | -266    | 0    | -266  | 0       | -370 | -370  | -129    | 0    | -129  | 0       | -25  | -25   | -790         |
| Added       | 330     | 0    | 330   | 0       | 406  | 406   | 118     | 0    | 118   | 0       | 41   | 41    | 895          |
| Total       | 64      | 0    | 64    | 0       | 36   | 36    | -11     | 0    | -11   | 0       | 16   | 16    | 105          |
| #182        |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base        | -370    | 0    | -370  | -475    | -370 | -845  | 0       | -475 | -475  | 0       | 0    | 0     | -1690        |
| Added       | 406     | 0    | 406   | 504     | 406  | 910   | 0       | 504  | 504   | 0       | 0    | 0     | 1820         |
| Total       | 36      | 0    | 36    | 29      | 36   | 65    | 0       | 29   | 29    | 0       | 0    | 0     | 130          |
| #201        |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base        | 0       | 0    | 0     | 0       | 0    | 0     | -932    | 0    | -932  | 0       | -932 | -932  | -1864        |
| Added       | 0       | 0    | 0     | 0       | 0    | 0     | 1047    | 0    | 1047  | 0       | 1047 | 1047  | 2093         |
| Total       | 0       | 0    | 0     | 0       | 0    | 0     | 115     | 0    | 115   | 0       | 115  | 115   | 229          |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

| Volume Type | NB Link |      |       | SB Link |       |       | EB Link |      |       | WB Link |      |       | Total Volume |
|-------------|---------|------|-------|---------|-------|-------|---------|------|-------|---------|------|-------|--------------|
|             | In      | Out  | Total | In      | Out   | Total | In      | Out  | Total | In      | Out  | Total |              |
| #204        |         |      |       |         |       |       |         |      |       |         |      |       |              |
| Base        | 0       | -580 | -580  | -932    | 0     | -932  | 0       | 0    | 0     | 0       | -352 | -352  | -1864        |
| Added       | 0       | 655  | 655   | 1047    | 0     | 1047  | 0       | 0    | 0     | 0       | 392  | 392   | 2093         |
| Total       | 0       | 75   | 75    | 115     | 0     | 115   | 0       | 0    | 0     | 0       | 40   | 40    | 229          |
| #207        |         |      |       |         |       |       |         |      |       |         |      |       |              |
| Base        | -714    | 0    | -714  | 0       | -1110 | -1110 | 0       | 0    | 0     | -396    | 0    | -396  | -222         |
| Added       | 831     | 0    | 831   | 0       | 1261  | 1261  | 0       | 0    | 0     | 430     | 0    | 430   | 2523         |
| Total       | 117     | 0    | 117   | 0       | 151   | 151   | 0       | 0    | 0     | 34      | 0    | 34    | 303          |
| #214        |         |      |       |         |       |       |         |      |       |         |      |       |              |
| Base        | 0       | -546 | -546  | 0       | 0     | 0     | 0       | -564 | -564  | -1110   | 0    | -1110 | -2220        |
| Added       | 0       | 554  | 554   | 0       | 0     | 0     | 0       | 707  | 707   | 1261    | 0    | 1261  | 2523         |
| Total       | 0       | 8    | 8     | 0       | 0     | 0     | 0       | 143  | 143   | 151     | 0    | 151   | 303          |
| #217        |         |      |       |         |       |       |         |      |       |         |      |       |              |
| Base        | 0       | -45  | -45   | -45     | 0     | -45   | -25     | 0    | -25   | 0       | -25  | -25   | -140         |
| Added       | 0       | 25   | 25    | 25      | 0     | 25    | 41      | 0    | 41    | 0       | 41   | 41    | 132          |
| Total       | 0       | -20  | -20   | -20     | 0     | -20   | 16      | 0    | 16    | 0       | 16   | 16    | -8           |
| #218        |         |      |       |         |       |       |         |      |       |         |      |       |              |
| Base        | -21     | 0    | -21   | 0       | -42   | -42   | -25     | 0    | -25   | 0       | -4   | -4    | -92          |
| Added       | 9       | 0    | 9     | 0       | 46    | 46    | 41      | 0    | 41    | 0       | 4    | 4     | 100          |
| Total       | -12     | 0    | -12   | 0       | 4     | 4     | 16      | 0    | 16    | 0       | -0   | -0    | 8            |
| #219        |         |      |       |         |       |       |         |      |       |         |      |       |              |
| Base        | -43     | 0    | -43   | 0       | -43   | -43   | 0       | -20  | -20   | -20     | 0    | -20   | -126         |
| Added       | 46      | 0    | 46    | 0       | 46    | 46    | 0       | 20   | 20    | 20      | 0    | 20    | 133          |
| Total       | 3       | 0    | 3     | 0       | 3     | 3     | 0       | 0    | 0     | 0       | 0    | 0     | 7            |
| #220        |         |      |       |         |       |       |         |      |       |         |      |       |              |
| Base        | 0       | -45  | -45   | -79     | 0     | -79   | 0       | -54  | -54   | -20     | 0    | -20   | -198         |
| Added       | 0       | 25   | 25    | 80      | 0     | 80    | 0       | 75   | 75    | 20      | 0    | 20    | 200          |
| Total       | 0       | -20  | -20   | 1       | 0     | 1     | 0       | 21   | 21    | 0       | 0    | 0     | 2            |
| #225        |         |      |       |         |       |       |         |      |       |         |      |       |              |
| Base        | 0       | 0    | 0     | 0       | -20   | -20   | 0       | -396 | -396  | -416    | 0    | -416  | -832         |
| Added       | 0       | 0    | 0     | 0       | 20    | 20    | 0       | 430  | 430   | 451     | 0    | 451   | 901          |
| Total       | 0       | 0    | 0     | 0       | 0     | 0     | 0       | 34   | 34    | 35      | 0    | 35    | 69           |
| #226        |         |      |       |         |       |       |         |      |       |         |      |       |              |
| Base        | 0       | 0    | 0     | -4      | 0     | -4    | -352    | 0    | -352  | 0       | -356 | -356  | -712         |
| Added       | 0       | 0    | 0     | 4       | 0     | 4     | 392     | 0    | 392   | 0       | 396  | 396   | 791          |
| Total       | 0       | 0    | 0     | -0      | 0     | -0    | 40      | 0    | 40    | 0       | 40   | 40    | 79           |

Table J7-3 (Continued)

|   |         |     |                          |         |      |       |         |      |       |         |     |       |          |  |
|---|---------|-----|--------------------------|---------|------|-------|---------|------|-------|---------|-----|-------|----------|--|
| A-AM.CMD                                |         |     | Tue Nov 5, 1996 13:15:11 |         |      |       |         |      |       |         |     |       | Page 4-5 |  |
| -----                                   |         |     |                          |         |      |       |         |      |       |         |     |       |          |  |
| FISCO/Port Vision 2000 EIS/EIR          |         |     |                          |         |      |       |         |      |       |         |     |       |          |  |
| Maximum Marine/Maximum Rail Alternative |         |     |                          |         |      |       |         |      |       |         |     |       |          |  |
| AM Peak Hour                            |         |     |                          |         |      |       |         |      |       |         |     |       |          |  |
| -----                                   |         |     |                          |         |      |       |         |      |       |         |     |       |          |  |
| Volume                                  | NB Link |     |                          | SB Link |      |       | EB Link |      |       | WB Link |     |       | Total    |  |
| Type                                    | In      | Out | Total                    | In      | Out  | Total | In      | Out  | Total | In      | Out | Total | Volume   |  |
|   |         |     |                          |         |      |       |         |      |       |         |     |       |          |  |
| #244                                    |         |     |                          |         |      |       |         |      |       |         |     |       |          |  |
| Base                                    | 0       | 0   | 0                        | -288    | -312 | -600  | -359    | -333 | -692  | -45     | -47 | -92   | -1384    |  |
| Added                                   | 0       | 0   | 0                        | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0   | 0     | 0        |  |
| Total                                   | 0       | 0   | 0                        | -288    | -312 | -600  | -359    | -333 | -692  | -45     | -47 | -92   | -1384    |  |

|   |                                   |                          |      |       |     |        |       |          |            |
|---|-----------------------------------|--------------------------|------|-------|-----|--------|-------|----------|------------|
| A-AM.CMD                                |                                   | Tue Nov 5, 1996 13:15:11 |      |       |     |        |       | Page 5-1 |            |
| FISCO/Port Vision 2000 EIS/EIR          |                                   |                          |      |       |     |        |       |          |            |
| Maximum Marine/Maximum Rail Alternative |                                   |                          |      |       |     |        |       |          |            |
| AM Peak Hour                            |                                   |                          |      |       |     |        |       |          |            |
| Impact Analysis Report                  |                                   |                          |      |       |     |        |       |          |            |
| Level Of Service                        |                                   |                          |      |       |     |        |       |          |            |
| Intersection                            |                                   |                          | Base |       |     | Future |       |          | Change     |
|   |                                   |                          | Del/ | V/    |     | Del/   | V/    |          | in         |
|   |                                   | LOS                      | Veh  | C     | LOS | Veh    | C     |          |            |
| #                                       | 3 Maritime St./ Burma St.         | B                        | 6.3  | 0.089 | B   | 8.5    | 0.267 | +        | 2.149 D/V  |
| #                                       | 4 Maritime St./ 14th St.          | C                        | 15.0 | 0.161 | C   | 20.5   | 0.803 | +        | 5.425 D/V  |
| #                                       | 5 Maritime St./ 7th St. Extensio  | B                        | 12.7 | 0.071 | C   | 17.5   | 0.897 | +        | 4.837 D/V  |
| #                                       | 6 7th St./ 7th St. Extension      | B                        | 11.8 | 0.000 | B   | 14.6   | 0.770 | +        | 2.773 D/V  |
| #                                       | 8 Adeline St./ 3rd St.            | B                        | 8.7  | 0.064 | F   | 72.1   | 0.660 | +        | 63.421 D/V |
| #                                       | 9 7th/Middle Harbor Rd            | C                        | 15.8 | 0.000 | C   | 15.9   | 0.594 | +        | 0.098 D/V  |
| #                                       | 10 New Harbor/Mid Harbor Rd       |                          | 0.0  | 0.000 | C   | 20.9   | 0.821 | +        | 20.851 D/V |
| #                                       | 12 Maritime St./ W.Grand Ave./ I- | B                        | 12.0 | 0.242 | C   | 16.6   | 0.526 | +        | 4.653 D/V  |
| #                                       | 13 Adeline St./ 5th St./ I-880 SB | C                        | 18.3 | 0.236 | C   | 23.6   | 0.819 | +        | 5.311 D/V  |
| #                                       | 14 Union St./ 5th St./ I-880 Nort | C                        | 16.4 | 0.104 | C   | 17.6   | 0.392 | +        | 1.186 D/V  |
| #                                       | 15 7th St./ I-880 NB Ramps / Fron | B                        | 13.0 | 0.366 | C   | 21.3   | 0.565 | +        | 8.382 D/V  |
| #                                       | 16 7th St./ I-880 SB Ramps        | A                        | 0.1  | 0.020 | A   | 1.4    | 0.420 | +        | 1.324 D/V  |
| #                                       | 17 14th St./ I-880 Frontage Rd.   | A                        | 2.8  | 0.000 | C   | 3.0    | 0.000 | +        | 0.000 V/C  |
| #                                       | 18 W.Grand Ave./ I-880 Frontage R | C                        | 19.9 | 0.237 | C   | 21.3   | 0.457 | +        | 1.477 D/V  |



Table J7-3 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #3 Maritime St./ Burma St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.267  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 8.5  
Optimal Cycle: 58 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected  
Rights: Include Include Include Include  
Min. Green: 10 20 20 10 20 20 10 20 20 0 0 0  
Lanes: 1 0 1 1 0 1 0 1 1 0 1 0 0 0 0 0 0

## Volume Module:

Base Vol: 5 78 0 0 287 0 0 0 0 5 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 5 78 0 0 287 0 0 0 0 5 0 0 0  
Added Vol: 0 253 0 0 385 180 109 0 0 0 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 5 331 0 0 672 180 109 0 0 5 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 5 331 0 0 672 180 109 0 0 5 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 5 331 0 0 672 180 109 0 0 5 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.05 1.05 1.00 1.05 1.05 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 5 348 0 0 706 189 109 0 0 5 0 0 0

## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.95 1.00 1.00 1.00 0.97 0.97 0.95 1.00 0.85 1.00 1.00 1.00  
Lanes: 1.00 2.00 0.00 1.00 1.58 0.42 1.00 0.00 1.00 0.00 0.00 0.00  
Final Sat.: 1805 3800 0 1900 2908 778 1805 0 1615 0 0 0

## Capacity Analysis Module:

Vol/Sat: 0.00 0.09 0.00 0.00 0.24 0.24 0.06 0.00 0.00 0.00 0.00 0.00  
Crit Moves: \*\*\*\* \*\*\*\* \*\*\*\*  
Green/Cycle: 0.10 0.48 0.00 0.00 0.62 0.62 0.20 0.00 0.20 0.00 0.00 0.00  
Volume/Cap: 0.03 0.19 0.00 0.00 0.39 0.39 0.30 0.00 0.02 0.00 0.00 0.00

## Level Of Service Module:

Delay/Veh: 26.2 9.6 0.0 0.0 6.2 6.2 22.2 0.0 20.7 0.0 0.0 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 26.2 9.6 0.0 0.0 6.2 6.2 22.2 0.0 20.7 0.0 0.0 0.0  
Queue: 0 6 0 0 10 3 3 0 0 0 0 0

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #4 Maritime St./ 14th St:

Cycle (sec): 100 Critical Vol./Cap. (X): 0.803  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 20.5  
Optimal Cycle: 66 Level Of Service: C

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Permitted Permitted  
Rights: Include Include Ovl Include  
Min. Green: 10 20 20 10 20 20 10 20 20 10 20 20  
Lanes: 1 0 1 1 0 1 0 1 1 0 0 0 1 0 0 1 0

## Volume Module:

Base Vol: 0 91 39 103 261 0 0 0 0 22 0 87  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 91 39 103 261 0 0 0 0 22 0 87  
Added Vol: 399 169 0 0 277 108 84 0 377 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 399 260 39 103 538 108 84 0 377 22 0 87  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 399 260 39 103 538 108 84 0 377 22 0 87  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 399 260 39 103 538 108 84 0 377 22 0 87  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.05 1.05 1.00 1.05 1.05 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 399 273 41 103 565 113 84 0 377 22 0 87

## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.95 0.98 0.98 0.95 0.97 0.97 0.73 1.00 0.73 0.57 1.00 0.85  
Lanes: 1.00 1.74 0.26 1.00 1.67 0.33 0.18 0.00 0.82 1.00 0.00 1.00  
Final Sat.: 1805 3238 486 1805 3072 614 252 0 1129 1083 0 1615

## Capacity Analysis Module:

Vol/Sat: 0.22 0.08 0.08 0.06 0.18 0.18 0.33 0.00 0.33 0.02 0.00 0.05  
Crit Moves: \*\*\*\* \*\*\*\* \*\*\*\*  
Green/Cycle: 0.28 0.34 0.34 0.17 0.23 0.23 0.42 0.00 0.69 0.42 0.00 0.42  
Volume/Cap: 0.80 0.25 0.25 0.34 0.80 0.80 0.80 0.00 0.48 0.05 0.00 0.13

## Level Of Service Module:

Delay/Veh: 28.2 15.6 15.6 24.0 27.5 27.5 22.2 0.0 4.9 11.3 0.0 11.7  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 28.2 15.6 15.6 24.0 27.5 27.5 22.2 0.0 4.9 11.3 0.0 11.7  
Queue: 11 6 1 3 16 4 3 0 5 0 0 1

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.897  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 17.5  
Optimal Cycle: 98 Level Of Service: C

| Approach:   | North Bound |    |   | South Bound |    |    | East Bound |   |    | West Bound |   |   |
|-------------|-------------|----|---|-------------|----|----|------------|---|----|------------|---|---|
| Movement:   | L           | T  | R | L           | T  | R  | L          | T | R  | L          | T | R |
| Control:    | Protected   |    |   | Protected   |    |    | Protected  |   |    | Protected  |   |   |
| Rights:     | Include     |    |   | Ovl         |    |    | Ovl        |   |    | Include    |   |   |
| Min. Green: | 10          | 20 | 0 | 0           | 20 | 20 | 10         | 0 | 20 | 0          | 0 | 0 |
| Lanes:      | 2           | 0  | 2 | 0           | 0  | 2  | 0          | 0 | 0  | 1          | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 159  | 0    | 0    | 0    | 0    | 334  | 69   | 0    | 37   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 159  | 0    | 0    | 0    | 0    | 334  | 69   | 0    | 37   | 0    | 0    | 0    |
| Added Vol:   | 910  | 337  | 0    | 0    | 383  | 271  | 231  | 0    | 829  | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 1069 | 337  | 0    | 0    | 383  | 605  | 300  | 0    | 866  | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 1069 | 337  | 0    | 0    | 383  | 605  | 300  | 0    | 866  | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 1069 | 337  | 0    | 0    | 383  | 605  | 300  | 0    | 866  | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.05 | 1.00 | 1.00 | 1.05 | 1.00 | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 1101 | 354  | 0    | 0    | 402  | 605  | 309  | 0    | 866  | 0    | 0    | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 3610 | 3800 | 0    | 0    | 3800 | 1615 | 3610 | 0    | 1615 | 0    | 0    | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.30 | 0.09 | 0.00 | 0.00 | 0.11 | 0.37 | 0.09 | 0.00 | 0.54 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      |      |      | **** |      |      | **** |      |      |      |
| Green/Cycle: | 0.35 | 0.66 | 0.00 | 0.00 | 0.31 | 0.57 | 0.26 | 0.00 | 0.61 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.88 | 0.14 | 0.00 | 0.00 | 0.34 | 0.65 | 0.33 | 0.00 | 0.88 | 0.00 | 0.00 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 25.3 | 4.2  | 0.0  | 0.0  | 17.2 | 10.5 | 19.3 | 0.0  | 17.4 | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 25.3 | 4.2  | 0.0  | 0.0  | 17.2 | 10.5 | 19.3 | 0.0  | 17.4 | 0.0  | 0.0  | 0.0  |
| Queue:       | 31   | 4    | 0    | 0    | 9    | 12   | 7    | 0    | 23   | 0    | 0    | 0    |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.770  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 14.6  
Optimal Cycle: 59 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|---|---|-------------|---|----|------------|----|----|------------|----|----|
| Movement:   | L           | T | R | L           | T | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |   |   | Protected   |   |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |   |   | Include     |   |    | Include    |    |    | Ovl        |    |    |
| Min. Green: | 0           | 0 | 0 | 10          | 0 | 20 | 10         | 20 | 20 | 0          | 20 | 20 |
| Lanes:      | 0           | 0 | 0 | 0           | 0 | 0  | 2          | 0  | 0  | 1          | 2  | 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 54   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 54   |
| Added Vol:   | 0    | 0    | 0    | 625  | 0    | 586  | 533  | 306  | 0    | 0    | 367  | 715  |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 0    | 0    | 625  | 0    | 586  | 533  | 306  | 0    | 0    | 367  | 769  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 625  | 0    | 586  | 533  | 306  | 0    | 0    | 367  | 769  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 625  | 0    | 586  | 533  | 306  | 0    | 0    | 367  | 769  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.03 | 1.00 | 1.00 | 1.03 | 1.05 | 1.00 | 1.00 | 1.00 | 1.05 |
| Final Vol.:  | 0    | 0    | 0    | 644  | 0    | 586  | 549  | 322  | 0    | 0    | 367  | 807  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 1.00 | 2.00 | 2.00 | 0.00 | 0.00 | 1.00 | 2.00 |
| Final Sat.: | 0    | 0    | 0    | 3610 | 0    | 1615 | 3610 | 3800 | 0    | 0    | 1900 | 3230 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.18 | 0.00 | 0.36 | 0.15 | 0.08 | 0.00 | 0.00 | 0.19 | 0.25 |
| Crit Moves:  |      |      |      | **** |      | **** |      |      |      |      | **** |      |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.47 | 0.00 | 0.47 | 0.20 | 0.45 | 0.00 | 0.00 | 0.25 | 0.72 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.38 | 0.00 | 0.77 | 0.77 | 0.19 | 0.00 | 0.00 | 0.77 | 0.35 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 11.1 | 0.0  | 17.5 | 28.1 | 10.7 | 0.0  | 0.0  | 24.2 | 3.2  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 11.1 | 0.0  | 17.5 | 28.1 | 10.7 | 0.0  | 0.0  | 24.2 | 3.3  |
| Queue:       | 0    | 0    | 0    | 12   | 0    | 14   | 15   | 5    | 0    | 0    | 10   | 8    |

Table J7-3 (Continued)

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FISCO/Port Vision 2000 EIS/EIR

Maximum Marine/Maximum Rail Alternative

AM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec):100Critical Vol./Cap. (X):0.660

Loss Time (sec):12 (Y+R = 4 sec)Average Delay (sec/veh):72.1

Optimal Cycle:92Level Of Service:F

Approach:North BoundSouth BoundEast BoundWest Bound

Movement:L - T - RL - T - RL - T - RL - T - R

Control:Split PhaseSplit PhaseSplit PhaseSplit Phase

Rights:IncludeIncludeIncludeInclude

Min. Green:102020102020102020

Lanes:0101001010100101010

Volume Module:

Base Vol:8031260268629505956

Growth Adj:1.001.001.001.001.001.001.001.001.001.001.001.00

Initial Bse:8031260268629505956

Added Vol:077800102000000000

PasserByVol:00000000000000

Initial Fut:877831261020268629505956

User Adj:1.001.001.001.001.001.001.001.001.001.001.00

PHF Adj:1.001.001.001.001.001.001.001.001.001.001.00

PHF Volume:877831261020268629505956

Reduct Vol:00000000000000

Reduced Vol:877831261020268629505956

PCE Adj:1.001.001.001.001.001.001.001.001.001.001.00

MLF Adj:1.051.051.051.051.051.051.001.001.001.051.051.05

Final Vol.:881733271071278629536259

Saturation Flow Module:

Sat/Lane:1900190019001900190019001900190019001900

Adjustment:0.990.990.991.001.001.000.970.970.850.940.940.94

Lanes:0.021.900.080.051.900.050.570.431.000.610.710.68

Final Sat.:3535821459136189110537901615108912731212

Capacity Analysis Module:

Vol/Sat:0.230.230.230.300.300.300.010.010.020.050.050.05

Crit Moves:\*\*\*\*\*

Green/Cycle:0.210.210.210.270.270.270.200.200.200.200.200.20

Volume/Cap:1.091.091.091.091.091.090.040.040.090.240.240.24

Level Of Service Module:

Delay/Veh:80.680.680.675.475.475.420.820.821.121.821.821.8

User DelAdj:1.001.001.001.001.001.001.001.001.001.001.001.00

AdjDel/Veh:80.680.680.675.475.475.420.820.821.121.821.821.8

Queue:13833493001111

|  |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
|--|--|--|--------------------------|--|--------------------------|----------------|--|--|----------------|-------|--|----------------|--|
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| FISCO/Port Vision 2000 EIS/EIR                         |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| Maximum Marine/Maximum Rail Alternative                |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| AM Peak Hour   |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| Level Of Service Computation Report                    |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| 1994 HCM Operations Method (Future Volume Alternative) |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| *****  |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| Intersection #9 7th/Middle Harbor Rd                   |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| *****  |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| Cycle (sec):   |  |  | 100                      |  | Critical Vol./Cap. (X):  |                |  |  |                | 0.594 |  |                |  |
| Loss Time (sec):                                       |  |  | 8 (Y+R = 4 sec)          |  | Average Delay (sec/veh): |                |  |  |                | 15.9  |  |                |  |
| Optimal Cycle:   |  |  | 58                       |  | Level Of Service:        |                |  |  |                | C     |  |                |  |
| *****  |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| Approach:  |  |  | North Bound              |  |                          | South Bound    |  |  | East Bound     |       |  | West Bound     |  |
| Movement:  |  |  | L - T - R                |  |                          | L - T - R      |  |  | L - T - R      |       |  | L - T - R      |  |
| -----  |  |  | -----                    |  |                          | -----          |  |  | -----          |       |  | -----          |  |
| Control:   |  |  | Protected                |  |                          | Protected      |  |  | Protected      |       |  | Protected      |  |
| Rights:  |  |  | Include                  |  |                          | Include        |  |  | Include        |       |  | Include        |  |
| Min. Green:  |  |  | 10 0 20                  |  |                          | 0 0 0 0        |  |  | 0 20 20        |       |  | 10 20 0        |  |
| Lanes:   |  |  | 1 0 0 0 1                |  |                          | 0 0 0 0 0      |  |  | 0 0 1 1 0      |       |  | 1 0 1 1 0      |  |
| -----  |  |  | -----                    |  |                          | -----          |  |  | -----          |       |  | -----          |  |
| Volume Module:   |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| Base Vol:  |  |  | 0 0 0                    |  |                          | 0 0 0          |  |  | 0 0 0          |       |  | 0 0 1          |  |
| Growth Adj:  |  |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |       |  | 1.00 1.00 1.00 |  |
| Initial Bse:   |  |  | 0 0 0                    |  |                          | 0 0 0          |  |  | 0 0 0          |       |  | 0 0 1          |  |
| Added Vol:   |  |  | 17 0 332                 |  |                          | 0 0 0          |  |  | 0 508 3        |       |  | 361 593 0      |  |
| PasserByVol:   |  |  | 0 0 0                    |  |                          | 0 0 0          |  |  | 0 0 0          |       |  | 0 0 0          |  |
| Initial Fut:   |  |  | 17 0 332                 |  |                          | 0 0 0          |  |  | 0 508 3        |       |  | 361 593 1      |  |
| User Adj:  |  |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |       |  | 1.00 1.00 1.00 |  |
| PHF Adj:   |  |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |       |  | 1.00 1.00 1.00 |  |
| PHF Volume:  |  |  | 17 0 332                 |  |                          | 0 0 0          |  |  | 0 508 3        |       |  | 361 593 1      |  |
| Reduct Vol:  |  |  | 0 0 0                    |  |                          | 0 0 0          |  |  | 0 0 0          |       |  | 0 0 0          |  |
| Reduced Vol:   |  |  | 17 0 332                 |  |                          | 0 0 0          |  |  | 0 508 3        |       |  | 361 593 1      |  |
| PCE Adj:   |  |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |       |  | 1.00 1.00 1.00 |  |
| MLF Adj:   |  |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.05 1.05 |       |  | 1.00 1.05 1.05 |  |
| Final Vol.:  |  |  | 17 0 332                 |  |                          | 0 0 0          |  |  | 0 533 4        |       |  | 361 622 1      |  |
| -----  |  |  | -----                    |  |                          | -----          |  |  | -----          |       |  | -----          |  |
| Saturation Flow Module:                                |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| Sat/Lane:  |  |  | 1900 1900 1900           |  |                          | 1900 1900 1900 |  |  | 1900 1900 1900 |       |  | 1900 1900 1900 |  |
| Adjustment:  |  |  | 0.95 1.00 0.85           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |       |  | 0.95 1.00 1.00 |  |
| Lanes:   |  |  | 1.00 0.00 1.00           |  |                          | 0.00 0.00 0.00 |  |  | 0.00 1.99 0.01 |       |  | 1.00 1.99 0.01 |  |
| Final Sat.:  |  |  | 1805 0 1615              |  |                          | 0 0 0          |  |  | 0 3772 28      |       |  | 1805 3794 6    |  |
| -----  |  |  | -----                    |  |                          | -----          |  |  | -----          |       |  | -----          |  |
| Capacity Analysis Module:                              |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| Vol/Sat:   |  |  | 0.01 0.00 0.21           |  |                          | 0.00 0.00 0.00 |  |  | 0.00 0.14 0.14 |       |  | 0.20 0.16 0.16 |  |
| Crit Moves:  |  |  | ****                     |  |                          | ****           |  |  | ****           |       |  | ****           |  |
| Green/Cycle:   |  |  | 0.35 0.00 0.35           |  |                          | 0.00 0.00 0.00 |  |  | 0.00 0.24 0.24 |       |  | 0.34 0.57 0.57 |  |
| Volume/Cap:  |  |  | 0.03 0.00 0.59           |  |                          | 0.00 0.00 0.00 |  |  | 0.00 0.59 0.59 |       |  | 0.59 0.29 0.29 |  |
| -----  |  |  | -----                    |  |                          | -----          |  |  | -----          |       |  | -----          |  |
| Level Of Service Module:                               |  |  |                          |  |                          |                |  |  |                |       |  |                |  |
| Delay/Veh:   |  |  | 14.0 0.0 18.7            |  |                          | 0.0 0.0 0.0    |  |  | 0.0 22.6 22.6  |       |  | 18.9 7.0 7.0   |  |
| User DelAdj:   |  |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |       |  | 1.00 1.00 1.00 |  |
| AdjDel/Veh:  |  |  | 14.0 0.0 18.7            |  |                          | 0.0 0.0 0.0    |  |  | 0.0 22.6 22.6  |       |  | 18.9 7.0 7.0   |  |
| Queue:   |  |  | 0 0 8                    |  |                          | 0 0 0          |  |  | 0 13 0         |       |  | 9 9 0          |  |
| *****  |  |  |                          |  |                          |                |  |  |                |       |  |                |  |



|  |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
|--|-----------------|------|------|--------------------------|------|------|------------|-----------|-------|------------|------|------|---|---|
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| FISCO/Port Vision 2000 EIS/EIR                         |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Maximum Marine/Maximum Rail Alternative                |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| AM Peak Hour   |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Level Of Service Computation Report                    |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| 1994 HCM Operations Method (Future Volume Alternative) |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| *****  |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Intersection #10 New Harbor/Mid Harbor Rd              |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| *****  |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Cycle (sec):   | 100             |      |      | Critical Vol./Cap. (X):  |      |      |            |           | 0.821 |            |      |      |   |   |
| Loss Time (sec):                                       | 8 (Y+R = 4 sec) |      |      | Average Delay (sec/veh): |      |      |            |           | 20.9  |            |      |      |   |   |
| Optimal Cycle:   | 70              |      |      | Level Of Service         |      |      |            |           | C     |            |      |      |   |   |
| *****  |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Approach:  | North Bound     |      |      | South Bound              |      |      | East Bound |           |       | West Bound |      |      |   |   |
| Movement:  | L               | T    | R    | L                        | T    | R    | L          | T         | R     | L          | T    | R    |   |   |
| ----- ----- ----- -----                                |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Control:   | Protected       |      |      | Protected                |      |      | Protected  |           |       | Protected  |      |      |   |   |
| Rights:  | Ovl             |      |      | Include                  |      |      | Include    |           |       | Include    |      |      |   |   |
| Min. Green:  | 10              | 0    | 20   | 0                        | 0    | 0    | 0          | 20        | 20    | 10         | 20   | 0    |   |   |
| Lanes:   | 1               | 0    | 0    | 0                        | 1    | 0    | 0          | 0         | 0     | 1          | 0    | 2    | 0 | 0 |
| ----- ----- ----- -----                                |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Volume Module:   |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Base Vol:  | 0               | 0    | 0    | 0                        | 0    | 0    | 0          | 0         | 0     | 0          | 0    | 0    |   |   |
| Growth Adj:  | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 1.00  | 1.00       | 1.00 | 1.00 |   |   |
| Initial Bse:   | 0               | 0    | 0    | 0                        | 0    | 0    | 0          | 0         | 0     | 0          | 0    | 0    |   |   |
| Added Vol:   | 332             | 0    | 491  | 0                        | 0    | 0    | 0          | 3         | 361   | 628        | 17   | 0    |   |   |
| PasserByVol:   | 0               | 0    | 0    | 0                        | 0    | 0    | 0          | 0         | 0     | 0          | 0    | 0    |   |   |
| Initial Fut:   | 332             | 0    | 491  | 0                        | 0    | 0    | 0          | 3         | 361   | 628        | 17   | 0    |   |   |
| User Adj:  | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 1.00  | 1.00       | 1.00 | 1.00 |   |   |
| PHF Adj:   | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 1.00  | 1.00       | 1.00 | 1.00 |   |   |
| PHF Volume:  | 332             | 0    | 491  | 0                        | 0    | 0    | 0          | 3         | 361   | 628        | 17   | 0    |   |   |
| Reduct Vol:  | 0               | 0    | 0    | 0                        | 0    | 0    | 0          | 0         | 0     | 0          | 0    | 0    |   |   |
| Reduced Vol:   | 332             | 0    | 491  | 0                        | 0    | 0    | 0          | 3         | 361   | 628        | 17   | 0    |   |   |
| PCE Adj:   | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 1.00  | 1.00       | 1.00 | 1.00 |   |   |
| MLF Adj:   | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 1.00  | 1.00       | 1.05 | 1.00 |   |   |
| Final Vol.:  | 332             | 0    | 491  | 0                        | 0    | 0    | 0          | 3         | 361   | 628        | 18   | 0    |   |   |
| ----- ----- ----- -----                                |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Saturation Flow Module:                                |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Sat/Lane:  | 1900            | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900       | 1900      | 1900  | 1900       | 1900 | 1900 |   |   |
| Adjustment:  | 0.95            | 1.00 | 0.85 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 0.85  | 0.95       | 1.00 | 1.00 |   |   |
| Lanes:   | 1.00            | 0.00 | 1.00 | 0.00                     | 0.00 | 0.00 | 0.00       | 1.00      | 1.00  | 1.00       | 2.00 | 0.00 |   |   |
| Final Sat.:  | 1805            | 0    | 1615 | 0                        | 0    | 0    | 0          | 1900      | 1615  | 1805       | 3800 | 0    |   |   |
| ----- ----- ----- -----                                |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Capacity Analysis Module:                              |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Vol/Sat:   | 0.18            | 0.00 | 0.30 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.00      | 0.22  | 0.35       | 0.00 | 0.00 |   |   |
| Crit Moves:  | ****            |      |      |                          |      |      |            |           |       | ****       |      |      |   |   |
| Green/Cycle:   | 0.22            | 0.00 | 0.65 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.27      | 0.27  | 0.42       | 0.70 | 0.00 |   |   |
| Volume/Cap:  | 0.82            | 0.00 | 0.47 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.01      | 0.82  | 0.82       | 0.01 | 0.00 |   |   |
| ----- ----- ----- -----                                |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Level Of Service Module:                               |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |
| Delay/Veh:   | 32.6            | 0.0  | 6.0  | 0.0                      | 0.0  | 0.0  | 0.0        | 17.1      | 30.1  | 21.4       | 3.0  | 0.0  |   |   |
| User DelAdj:   | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 1.00  | 1.00       | 1.00 | 1.00 |   |   |
| AdjDel/Veh:  | 32.6            | 0.0  | 6.0  | 0.0                      | 0.0  | 0.0  | 0.0        | 17.1      | 30.1  | 21.4       | 3.0  | 0.0  |   |   |
| Queue:   | 10              | 0    | 7    | 0                        | 0    | 0    | 0          | 0         | 11    | 17         | 0    | 0    |   |   |
| *****  |                 |      |      |                          |      |      |            |           |       |            |      |      |   |   |

|  |  |  |                          |  |  |  |  |  |           |  |  |
|--|--|--|--------------------------|--|--|--|--|--|-----------|--|--|
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| FISCO/Port Vision 2000 EIS/EIR   |  |  |                          |  |  |  |  |  |           |  |  |
| Maximum Marine/Maximum Rail Alternative                                  |  |  |                          |  |  |  |  |  |           |  |  |
| AM Peak Hour   |  |  |                          |  |  |  |  |  |           |  |  |
| Level Of Service Computation Report                                      |  |  |                          |  |  |  |  |  |           |  |  |
| 1994 HCM Operations Method (Future Volume Alternative)                   |  |  |                          |  |  |  |  |  |           |  |  |
| Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps                 |  |  |                          |  |  |  |  |  |           |  |  |
| Cycle (sec): 100 Critical Vol./Cap. (X): 0.526                           |  |  |                          |  |  |  |  |  |           |  |  |
| Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 16.6          |  |  |                          |  |  |  |  |  |           |  |  |
| Optimal Cycle: 70 Level Of Service: C                                    |  |  |                          |  |  |  |  |  |           |  |  |
| Approach: North Bound South Bound East Bound West Bound                  |  |  |                          |  |  |  |  |  |           |  |  |
| Movement: L - T - R L - T - R L - T - R L - T - R                        |  |  |                          |  |  |  |  |  |           |  |  |
| Control: Protected Protected Protected Protected                         |  |  |                          |  |  |  |  |  |           |  |  |
| Rights: Include Include Include Include                                  |  |  |                          |  |  |  |  |  |           |  |  |
| Min. Green: 10 20 20 10 20 20 10 20 20 10 20 20                          |  |  |                          |  |  |  |  |  |           |  |  |
| Lanes: 2 0 0 1 0 1 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0                       |  |  |                          |  |  |  |  |  |           |  |  |
| Volume Module:   |  |  |                          |  |  |  |  |  |           |  |  |
| Base Vol: 0 33 0 16 28 47 48 394 438 0 300 9                             |  |  |                          |  |  |  |  |  |           |  |  |
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  |  |  |                          |  |  |  |  |  |           |  |  |
| Initial Bse: 0 33 0 16 28 47 48 394 438 0 300 9                          |  |  |                          |  |  |  |  |  |           |  |  |
| Added Vol: 298 0 65 0 0 0 0 0 0 483 82 0 0                               |  |  |                          |  |  |  |  |  |           |  |  |
| PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0                                   |  |  |                          |  |  |  |  |  |           |  |  |
| Initial Fut: 298 33 65 16 28 47 48 394 921 82 300 9                      |  |  |                          |  |  |  |  |  |           |  |  |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00    |  |  |                          |  |  |  |  |  |           |  |  |
| PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |  |  |                          |  |  |  |  |  |           |  |  |
| PHF Volume: 298 33 65 16 28 47 48 394 921 82 300 9                       |  |  |                          |  |  |  |  |  |           |  |  |
| Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0                                    |  |  |                          |  |  |  |  |  |           |  |  |
| Reduced Vol: 298 33 65 16 28 47 48 394 921 82 300 9                      |  |  |                          |  |  |  |  |  |           |  |  |
| PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |  |  |                          |  |  |  |  |  |           |  |  |
| MLF Adj: 1.03 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.05 1.00 1.05 1.05     |  |  |                          |  |  |  |  |  |           |  |  |
| Final Vol.: 307 33 65 16 28 47 48 394 967 82 315 9                       |  |  |                          |  |  |  |  |  |           |  |  |
| Saturation Flow Module:  |  |  |                          |  |  |  |  |  |           |  |  |
| Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900    |  |  |                          |  |  |  |  |  |           |  |  |
| Adjustment: 0.95 0.90 0.90 0.95 0.91 0.91 0.95 1.00 0.85 0.95 1.00 1.00  |  |  |                          |  |  |  |  |  |           |  |  |
| Lanes: 2.00 0.34 0.66 1.00 0.37 0.63 1.00 1.00 2.00 1.00 1.94 0.06       |  |  |                          |  |  |  |  |  |           |  |  |
| Final Sat.: 3610 576 1134 1805 645 1084 1805 1900 3230 1805 3694 106     |  |  |                          |  |  |  |  |  |           |  |  |
| Capacity Analysis Module:  |  |  |                          |  |  |  |  |  |           |  |  |
| Vol/Sat: 0.09 0.06 0.06 0.01 0.04 0.04 0.03 0.21 0.30 0.05 0.09 0.09     |  |  |                          |  |  |  |  |  |           |  |  |
| Crit Moves: ****   |  |  |                          |  |  |  |  |  |           |  |  |
| Green/Cycle: 0.13 0.22 0.22 0.11 0.20 0.20 0.19 0.47 0.47 0.10 0.38 0.38 |  |  |                          |  |  |  |  |  |           |  |  |
| Volume/Cap: 0.64 0.26 0.26 0.08 0.22 0.22 0.14 0.44 0.64 0.45 0.23 0.23  |  |  |                          |  |  |  |  |  |           |  |  |
| Level Of Service Module:   |  |  |                          |  |  |  |  |  |           |  |  |
| Delay/Veh: 28.6 20.8 20.8 25.8 21.7 21.7 21.8 11.6 13.6 28.7 13.7 13.7   |  |  |                          |  |  |  |  |  |           |  |  |
| User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |  |  |                          |  |  |  |  |  |           |  |  |
| AdjDel/Veh: 28.6 20.8 20.8 25.8 21.7 21.7 21.8 11.6 13.6 28.7 13.7 13.7  |  |  |                          |  |  |  |  |  |           |  |  |
| Queue: 8 1 2 0 1 1 1 7 21 2 6 0  |  |  |                          |  |  |  |  |  |           |  |  |



Table J7-3 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp

Cycle (sec): 100 Critical Vol./Cap. (X): 0.819  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 23.6  
Optimal Cycle: 82 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound  |    |    | West Bound  |    |    |
|-------------|-------------|----|----|-------------|----|----|-------------|----|----|-------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L           | T  | R  | L           | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Split Phase |    |    | Split Phase |    |    |
| Rights:     | Ovl         |    |    | Include     |    |    | Include     |    |    | Include     |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10          | 10 | 20 | 10          | 20 | 20 |
| Lanes:      | 1           | 0  | 1  | 1           | 0  | 1  | 0           | 1  | 1  | 0           | 1  | 1  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 72   | 109  | 165  | 256  | 51   | 0    | 0    | 169  | 364  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 72   | 109  | 165  | 256  | 51   | 0    | 0    | 169  | 364  |
| Added Vol:   | 195  | 150  | 433  | 0    | 203  | 0    | 0    | 0    | 264  | 554  | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 195  | 150  | 433  | 72   | 312  | 165  | 256  | 51   | 264  | 554  | 169  | 364  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.50 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 195  | 150  | 433  | 72   | 312  | 165  | 256  | 51   | 264  | 554  | 169  | 182  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 195  | 150  | 433  | 72   | 312  | 165  | 256  | 51   | 264  | 554  | 169  | 182  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.05 | 1.10 | 1.10 | 1.10 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 195  | 150  | 433  | 72   | 327  | 173  | 282  | 56   | 290  | 554  | 177  | 191  |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 0.85 | 0.95 | 0.95 | 0.95 | 0.91 | 0.91 | 0.91 | 0.95 | 0.92 | 0.92 |
| Lanes:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.31 | 0.69 | 1.67 | 0.33 | 1.00 | 1.00 | 0.96 | 1.04 |
| Final Sat.: | 1805 | 1900 | 1615 | 1805 | 2361 | 1249 | 2890 | 574  | 1732 | 1805 | 1682 | 1815 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.11 | 0.08 | 0.27 | 0.04 | 0.14 | 0.14 | 0.10 | 0.10 | 0.17 | 0.31 | 0.11 | 0.11 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.12 | 0.22 | 0.58 | 0.10 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.36 | 0.36 | 0.36 |
| Volume/Cap:  | 0.86 | 0.35 | 0.46 | 0.40 | 0.69 | 0.69 | 0.49 | 0.49 | 0.84 | 0.86 | 0.30 | 0.30 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 46.7 | 21.1 | 8.0  | 28.0 | 26.0 | 26.0 | 23.2 | 23.2 | 30.6 | 27.7 | 15.1 | 15.1 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 46.7 | 21.1 | 8.0  | 28.0 | 26.0 | 26.0 | 23.2 | 23.2 | 30.6 | 27.7 | 15.1 | 15.1 |
| Queue:       | 7    | 4    | 7    | 2    | 9    | 5    | 7    | 1    | 9    | 16   | 4    | 4    |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #14 Union St./ 5th St./ I-880 North Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.392  
Loss Time (sec): 11 (Y+R = 4 sec) Average Delay (sec/veh): 17.6  
Optimal Cycle: 71 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound  |    |    | West Bound  |    |    |
|-------------|-------------|----|----|-------------|----|----|-------------|----|----|-------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L           | T  | R  | L           | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Split Phase |    |    | Split Phase |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include     |    |    | Include     |    |    |
| Min. Green: | 0           | 20 | 20 | 0           | 20 | 20 | 10          | 20 | 20 | 10          | 20 | 20 |
| Lanes:      | 0           | 0  | 1  | 1           | 1  | 0  | 0           | 1  | 1  | 0           | 1  | 1  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 175  | 45   | 0    | 154  | 31   | 24   | 43   | 13   | 205  | 31   | 115  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 175  | 45   | 0    | 154  | 31   | 24   | 43   | 13   | 205  | 31   | 115  |
| Added Vol:   | 0    | 0    | 264  | 0    | 0    | 0    | 0    | 0    | 0    | 195  | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 175  | 309  | 0    | 154  | 31   | 24   | 43   | 13   | 400  | 31   | 115  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 175  | 309  | 0    | 154  | 31   | 24   | 43   | 13   | 400  | 31   | 115  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 175  | 309  | 0    | 154  | 31   | 24   | 43   | 13   | 400  | 31   | 115  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.10 | 1.10 | 1.00 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 193  | 340  | 0    | 162  | 33   | 25   | 45   | 14   | 400  | 31   | 115  |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 0.90 | 0.90 | 1.00 | 0.97 | 0.97 | 0.96 | 0.96 | 0.96 | 0.95 | 1.00 | 0.85 |
| Lanes:      | 0.00 | 1.09 | 1.91 | 0.00 | 1.66 | 0.34 | 0.60 | 1.07 | 0.33 | 1.00 | 1.00 | 1.00 |
| Final Sat.: | 0    | 1858 | 3272 | 0    | 3062 | 624  | 1086 | 1955 | 608  | 1805 | 1900 | 1615 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.10 | 0.10 | 0.00 | 0.05 | 0.05 | 0.02 | 0.02 | 0.02 | 0.22 | 0.02 | 0.07 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.00 | 0.22 | 0.22 | 0.00 | 0.22 | 0.22 | 0.20 | 0.20 | 0.20 | 0.47 | 0.47 | 0.47 |
| Volume/Cap:  | 0.00 | 0.47 | 0.47 | 0.00 | 0.24 | 0.24 | 0.12 | 0.12 | 0.12 | 0.47 | 0.03 | 0.15 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 22.2 | 22.2 | 0.0  | 20.8 | 20.8 | 21.2 | 21.2 | 21.2 | 12.0 | 9.2  | 9.8  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 22.2 | 22.2 | 0.0  | 20.8 | 20.8 | 21.2 | 21.2 | 21.2 | 12.0 | 9.2  | 9.8  |
| Queue:       | 0    | 5    | 8    | 0    | 4    | 1    | 1    | 1    | 0    | 8    | 0    | 2    |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.565  
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 21.3  
Optimal Cycle: 70 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Ovl         |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 0          | 20 | 20 |
| Lanes:      | 2           | 0  | 0  | 1           | 0  | 0  | 2          | 1  | 0  | 2          | 0  | 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 548  | 21   | 17   | 0    | 94   | 0    | 16   | 0    | 0    | 62   | 1    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 548  | 21   | 17   | 0    | 94   | 0    | 16   | 0    | 0    | 62   | 1    |
| Added Vol:   | 707  | 0    | 0    | 0    | 0    | 354  | 313  | 4    | 0    | 0    | 20   | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 707  | 548  | 21   | 17   | 0    | 448  | 313  | 20   | 0    | 0    | 82   | 1    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 707  | 548  | 21   | 17   | 0    | 448  | 313  | 20   | 0    | 0    | 82   | 1    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 707  | 548  | 21   | 17   | 0    | 448  | 313  | 20   | 0    | 0    | 82   | 1    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.13 | 1.00 | 1.05 | 1.00 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 729  | 548  | 21   | 17   | 0    | 507  | 313  | 22   | 0    | 0    | 86   | 1    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.99 | 0.99 | 0.95 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 0.96 | 0.04 | 1.00 | 0.00 | 2.00 | 1.00 | 2.00 | 0.00 | 0.00 | 1.98 | 0.02 |
| Final Sat.: | 3610 | 1812 | 69   | 1805 | 0    | 3230 | 1805 | 3800 | 0    | 0    | 3756 | 44   |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.20 | 0.30 | 0.30 | 0.01 | 0.00 | 0.16 | 0.17 | 0.01 | 0.00 | 0.00 | 0.02 | 0.02 |
| Crit Moves:  | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** |
| Green/Cycle: | 0.28 | 0.38 | 0.38 | 0.10 | 0.00 | 0.42 | 0.22 | 0.42 | 0.00 | 0.00 | 0.20 | 0.20 |
| Volume/Cap:  | 0.72 | 0.79 | 0.79 | 0.09 | 0.00 | 0.37 | 0.79 | 0.01 | 0.00 | 0.00 | 0.11 | 0.11 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 22.6 | 22.0 | 22.0 | 26.4 | 0.0  | 13.0 | 31.1 | 11.0 | 0.0  | 0.0  | 21.2 | 21.2 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 22.6 | 22.0 | 22.0 | 26.4 | 0.0  | 13.0 | 31.1 | 11.0 | 0.0  | 0.0  | 21.2 | 21.2 |
| Queue:       | 19   | 15   | 1    | 0    | 0    | 10   | 9    | 0    | 0    | 0    | 2    | 0    |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #16 7th St./ I-880 SB Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.420  
Loss Time (sec): 5 (Y+R = 4 sec) Average Delay (sec/veh): 1.4  
Optimal Cycle: 35 Level Of Service: A

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |    |    | West Bound |    |    |
|-------------|-------------|---|---|-------------|---|---|------------|----|----|------------|----|----|
| Movement:   | L           | T | R | L           | T | R | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |   |   | Protected   |   |   | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |   |   | Include     |   |   | Include    |    |    | Include    |    |    |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0  | 2  | 0          | 1  | 2  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 65   | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 65   | 0    | 0    |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 318  | 614  | 0    | 1082 | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 318  | 614  | 65   | 1082 | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 318  | 614  | 65   | 1082 | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 318  | 614  | 65   | 1082 | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 | 1.03 | 1.05 |
| Final Vol.:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 333  | 614  | 67   | 1136 | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 1.00 | 2.00 | 2.00 | 0.00 |
| Final Sat.: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 3800 | 1615 | 3610 | 3800 | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.38 | 0.02 | 0.30 | 0.00 |
| Crit Moves:  | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.85 | 0.85 | 0.10 | 0.95 | 0.00 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.45 | 0.19 | 0.31 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.8  | 1.3  | 26.7 | 0.1  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.8  | 1.3  | 26.7 | 0.1  | 0.0  |
| Queue:       | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 2    | 4    | 2    | 2    | 0    |

Table J7-3 (Continued)

A-AM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #17 14th St./ I-880 Frontage Rd.

Average Delay (sec/veh): 3.0 Worst Case Level Of Service: C

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 0 1 1 0    | 1 0 2 0 0    | 0 0 0 0 0  | 1 0 0 0 1  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 89   | 30   | 0    | 0    | 0    | 0    | 140  | 0    | 6    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 89   | 30   | 0    | 0    | 0    | 0    | 140  | 0    | 6    |
| Added Vol:   | 0    | 313  | 0    | 0    | 354  | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 313  | 89   | 30   | 354  | 0    | 0    | 0    | 140  | 0    | 6    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 313  | 89   | 30   | 354  | 0    | 0    | 0    | 140  | 0    | 6    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 313  | 89   | 30   | 354  | 0    | 0    | 0    | 140  | 0    | 6    |

## Adjusted Volume Module:

| Grade:               | 0%   | 0%   | 0%   | 0%   |
|----------------------|------|------|------|------|
| % Cycle/Cars:        | xxxx | xxxx | xxxx | xxxx |
| % Truck/Comb:        | xxxx | xxxx | xxxx | xxxx |
| PCE Adj:             | 1.10 | 1.00 | 1.00 | 1.10 |
| Cycl/Car PCE:        | xxxx | xxxx | xxxx | xxxx |
| Trck/Cmb PCE:        | xxxx | xxxx | xxxx | xxxx |
| Adj Vol.:            | 0    | 313  | 89   | 33   |
| Critical Gap Module: | 2.1  | xxxx | xxxx | xxxx |
| MoveUp Time:         | xxxx | xxxx | xxxx | xxxx |
| Critical Gp:         | xxxx | xxxx | xxxx | xxxx |

## Capacity Module:

|              |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|
| Cnflct Vol:  | xxxx | xxxx | xxxx | 402  | xxxx | xxxx | xxxx | xxxx | 742  | xxxx | 201  |
| Potent Cap.: | xxxx | xxxx | xxxx | 1043 | xxxx | xxxx | xxxx | xxxx | 355  | xxxx | 1095 |
| Adj Cap:     | xxxx | xxxx | xxxx | 1.00 | xxxx | xxxx | xxxx | xxxx | 0.97 | xxxx | 1.00 |
| Move Cap.:   | xxxx | xxxx | xxxx | 1043 | xxxx | xxxx | xxxx | xxxx | 344  | xxxx | 1095 |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxx          | xxxx          | xxxx          | 3.6           | xxxx          | xxxx          | xxxx          | xxxx          | 17.6          | xxxx          | 3.3           |
| LOS by Move: | *             | *             | *             | A             | *             | *             | *             | *             | C             | *             | A             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          |
| Shrd StpDel: | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          |
| Shared LOS:  | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel: | 0.0           | 0.3           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           | 17.0          | 0.0           | 0.0           |

A-AM.CMD

Tue Nov 5, 1996 13:15:11

Page 19-1

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #18 W.Grand Ave./ I-880 Frontage Rd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.457

Loss Time (sec): 11 (Y+R = 4 sec) Average Delay (sec/veh): 21.3

Optimal Cycle: 81 Level Of Service: C

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Split Phase | Split Phase | Protected  | Protected  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 10 20 20    | 10 20 20    | 10 20 20   | 10 20 20   |
| Lanes:      | 1 0 1 1 0   | 1 1 0 1 0   | 1 0 1 1 0  | 1 0 1 1 1  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 9    | 0    | 0    | 678  | 48   | 6    | 65   | 234  | 12   | 0    | 152  | 449  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 9    | 0    | 0    | 678  | 48   | 6    | 65   | 234  | 12   | 0    | 152  | 449  |
| Added Vol:   | 0    | 164  | 149  | 0    | 195  | 0    | 0    | 65   | 0    | 159  | 82   | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 9    | 164  | 149  | 678  | 243  | 6    | 65   | 299  | 12   | 159  | 234  | 449  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 9    | 164  | 149  | 678  | 243  | 6    | 65   | 299  | 12   | 159  | 234  | 449  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 9    | 164  | 149  | 678  | 243  | 6    | 65   | 299  | 12   | 159  | 234  | 449  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.05 | 1.05 | 1.00 | 1.10 | 1.10 |
| Final Vol.:  | 9    | 172  | 157  | 712  | 243  | 6    | 65   | 314  | 13   | 159  | 257  | 494  |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.93 | 0.93 | 0.95 | 1.00 | 1.00 | 0.95 | 0.99 | 0.99 | 0.95 | 0.90 | 0.90 |
| Lanes:      | 1.00 | 1.05 | 0.95 | 2.00 | 0.98 | 0.02 | 1.00 | 1.92 | 0.08 | 1.00 | 1.03 | 1.97 |
| Final Sat.: | 1805 | 1848 | 1686 | 3610 | 1854 | 46   | 1805 | 3612 | 150  | 1805 | 1756 | 3374 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.09 | 0.09 | 0.20 | 0.13 | 0.13 | 0.04 | 0.09 | 0.09 | 0.09 | 0.15 | 0.15 |
| Crit Moves:  | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** |
| Green/Cycle: | 0.20 | 0.20 | 0.20 | 0.34 | 0.34 | 0.34 | 0.10 | 0.23 | 0.23 | 0.12 | 0.25 | 0.25 |
| Volume/Cap:  | 0.02 | 0.47 | 0.47 | 0.58 | 0.39 | 0.39 | 0.36 | 0.37 | 0.37 | 0.75 | 0.58 | 0.58 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 20.8 | 23.2 | 23.2 | 18.0 | 16.3 | 16.3 | 27.7 | 20.9 | 20.9 | 37.0 | 21.7 | 21.7 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 20.8 | 23.2 | 23.2 | 18.0 | 16.3 | 16.3 | 27.7 | 20.9 | 20.9 | 37.0 | 21.7 | 21.7 |
| Queue:       | 0    | 4    | 4    | 17   | 5    | 0    | 2    | 7    | 0    | 5    | 6    | 12   |



Table J.7-4

|   |                  |                          |                |         |          |          |           |             |            |
|---|------------------|--------------------------|----------------|---------|----------|----------|-----------|-------------|------------|
| A-PM.CMD  |                  | Tue Nov 5, 1996 10:49:50 |                |         |          |          | Page 1-1  |             |            |
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Maximum Rail Alternative<br>PM Peak Hour |                  |                          |                |         |          |          |           |             |            |
| Trip Generation Report  |                  |                          |                |         |          |          |           |             |            |
| Forecast for PM Peak Hour   |                  |                          |                |         |          |          |           |             |            |
| Zone #  | Subzone          | Amount                   | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
| 1   | New Harbor       | 1018.00                  | Employees      | 0.06    | 0.22     | 61       | 224       | 285         | 5.2        |
|   | Zone 1 Subtotal  |                          |                |         |          | 61       | 224       | 285         | 5.2        |
| 3   | J.I.T.           | 360.00                   | Employees      | 0.10    | 0.36     | 36       | 130       | 166         | 3.0        |
|   | Zone 3 Subtotal  |                          |                |         |          | 36       | 130       | 166         | 3.0        |
| 6   | Middle Harbr     | 516.00                   | Employees      | 0.06    | 0.22     | 31       | 114       | 145         | 2.7        |
|   | Zone 6 Subtotal  |                          |                |         |          | 31       | 114       | 145         | 2.7        |
| 7   | 7th St Harbr     | 613.00                   | Employees      | 0.06    | 0.22     | 37       | 135       | 172         | 3.1        |
|   | Zone 7 Subtotal  |                          |                |         |          | 37       | 135       | 172         | 3.1        |
| 8   | Outer Harbor     | 706.00                   | Employees      | 0.06    | 0.21     | 42       | 148       | 190         | 3.5        |
|   | Zone 8 Subtotal  |                          |                |         |          | 42       | 148       | 190         | 3.5        |
| 10  | New Park         | 1.00                     | Total Trips    | 33.00   | 40.00    | 33       | 40        | 73          | 1.3        |
|   | Zone 10 Subtotal |                          |                |         |          | 33       | 40        | 73          | 1.3        |
| 11  | New Harbor       | 1.00                     | Trucks Inter   | 203.00  | 243.00   | 203      | 243       | 446         | 8.2        |
|   | Zone 11 Subtotal |                          |                |         |          | 203      | 243       | 446         | 8.2        |
| 16  | Middle Harbr     | 1.00                     | Trucks Inter   | 103.00  | 123.00   | 103      | 123       | 226         | 4.1        |
|   | Zone 16 Subtotal |                          |                |         |          | 103      | 123       | 226         | 4.1        |
| 17  | 7th St Harbr     | 1.00                     | Trucks Inter   | 122.00  | 147.00   | 122      | 147       | 269         | 4.9        |
|   | Zone 17 Subtotal |                          |                |         |          | 122      | 147       | 269         | 4.9        |
| 18  | Outer Harbor     | 1.00                     | Trucks Inter   | 141.00  | 169.00   | 141      | 169       | 310         | 5.7        |
|   | Zone 18 Subtotal |                          |                |         |          | 141      | 169       | 310         | 5.7        |
| 21  | New Harbor       | 1.00                     | Truck External | 391.00  | 468.00   | 391      | 468       | 859         | 15.7       |
|   | Zone 21 Subtotal |                          |                |         |          | 391      | 468       | 859         | 15.7       |
| 23  | J.I.T.           | 1.00                     | Truck External | 353.00  | 423.00   | 353      | 423       | 776         | 14.2       |
|   | Zone 23 Subtotal |                          |                |         |          | 353      | 423       | 776         | 14.2       |
| 26  | Middle Harbr     | 1.00                     | Truck External | 198.00  | 237.00   | 198      | 237       | 435         | 8.0        |
|   | Zone 26 Subtotal |                          |                |         |          | 198      | 237       | 435         | 8.0        |
| 27  | 7th St Harbr     | 1.00                     | Truck External | 235.00  | 282.00   | 235      | 282       | 517         | 9.5        |
|   | Zone 27 Subtotal |                          |                |         |          | 235      | 282       | 517         | 9.5        |
| 28  | Outer Harbor     | 1.00                     | Truck External | 271.00  | 325.00   | 271      | 325       | 596         | 10.9       |
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|   |         |                          |       |      |      |       |       |          |       |
|---|---------|--------------------------|-------|------|------|-------|-------|----------|-------|
| A-PM.CMD                                |         | Tue Nov 5, 1996 10:49:50 |       |      |      |       |       | Page 1-2 |       |
| -----                                   |         |                          |       |      |      |       |       |          |       |
| FISCO/Port Vision 2000 EIS/EIR          |         |                          |       |      |      |       |       |          |       |
| Maximum Marine/Maximum Rail Alternative |         |                          |       |      |      |       |       |          |       |
| PM Peak Hour                            |         |                          |       |      |      |       |       |          |       |
| -----                                   |         |                          |       |      |      |       |       |          |       |
| Zone                                    |         |                          |       | Rate | Rate | Trips | Trips | Total    | % Of  |
| #                                       | Subzone | Amount                   | Units | In   | Out  | In    | Out   | Trips    | Total |
| -----                                   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
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|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
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|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
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|   |         |                          |       |      |      |       |       |          |       |
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|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
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|   |         |                          |       |      |      |       |       |          |       |
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|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |
|   |         |                          |       |      |      |       |       |          |       |



FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
PM Peak Hour

## Trip Distribution Report

## Percent Of Trips Existing

| Zone | To Gates |     |     |     |      |      |      |      |       |
|------|----------|-----|-----|-----|------|------|------|------|-------|
|      | 3        | 4   | 5   | 11  | 12   | 13   | 14   | 15   | 16    |
| 1    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 3    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 6    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 7    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 8    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 10   | 0.0      | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 100.0 |
| 11   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 16   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 17   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 18   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 21   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 23   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 26   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 27   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 28   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
PM Peak Hour

## Turning Movement Report

## PM Peak Hour

| Volume                                      | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total  |
|---|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------|
| Type  | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume |
| #3 Maritime St./ Burma St.                  |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 5          | 590  | 0     | 0          | 109  | 0     | 0         | 0    | 50    | 0         | 0    | 0     | 754    |
| Added                                       | 0          | 354  | 0     | 0          | 210  | 92    | 160       | 0    | 0     | 0         | 0    | 0     | 816    |
| Total                                       | 5          | 944  | 0     | 0          | 319  | 92    | 160       | 0    | 50    | 0         | 0    | 0     | 1570   |
| #4 Maritime St./ 14th St.                   |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 414  | 28    | 105        | 132  | 0     | 0         | 0    | 0     | 92        | 0    | 290   | 1061   |
| Added                                       | 295        | 255  | 0     | 0          | 142  | 68    | 100       | 0    | 382   | 0         | 0    | 0     | 1241   |
| Total                                       | 295        | 669  | 28    | 105        | 274  | 68    | 100       | 0    | 382   | 92        | 0    | 290   | 2302   |
| #5 Maritime St./ 7th St. Extension          |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 36         | 0    | 0     | 0          | 0    | 75    | 223       | 0    | 74    | 0         | 0    | 0     | 408    |
| Added                                       | 730        | 325  | 0     | 0          | 307  | 218   | 224       | 0    | 795   | 0         | 0    | 0     | 2599   |
| Total                                       | 766        | 325  | 0     | 0          | 307  | 293   | 447       | 0    | 869   | 0         | 0    | 0     | 3007   |
| #6 7th St./ 7th St. Extension               |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 0    | 0     | 31         | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 31     |
| Added                                       | 0          | 0    | 0     | 683        | 0    | 418   | 562       | 373  | 0     | 0         | 265  | 494   | 2795   |
| Total                                       | 0          | 0    | 0     | 714        | 0    | 418   | 562       | 373  | 0     | 0         | 265  | 494   | 2826   |
| #7  |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 95         | 0    | 229   | 0          | 0    | 0     | 0         | 215  | 131   | 94        | 88   | 0     | 852    |
| Added                                       | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 604  | 0     | 0         | 399  | 0     | 1003   |
| Total                                       | 95         | 0    | 229   | 0          | 0    | 0     | 0         | 819  | 131   | 94        | 487  | 0     | 1855   |
| #8 Adeline St./ 3rd St.                     |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 36         | 0    | 122   | 43         | 0    | 15    | 30        | 14   | 13    | 89        | 39   | 78    | 479    |
| Added                                       | 0          | 955  | 0     | 0          | 628  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1583   |
| Total                                       | 36         | 955  | 122   | 43         | 628  | 15    | 30        | 14   | 13    | 89        | 39   | 78    | 2062   |
| #9 7th/Middle Harbor Rd                     |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 1     | 1      |
| Added                                       | 4          | 0    | 346   | 0          | 0    | 0     | 0         | 589  | 15    | 260       | 423  | 0     | 1637   |
| Total                                       | 4          | 0    | 346   | 0          | 0    | 0     | 0         | 589  | 15    | 260       | 423  | 1     | 1638   |
| #10 New Harbor/Mid Harbor Rd                |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0      |
| Added                                       | 346        | 0    | 589   | 0          | 0    | 0     | 0         | 15   | 260   | 395       | 4    | 0     | 1609   |
| Total                                       | 346        | 0    | 589   | 0          | 0    | 0     | 0         | 15   | 260   | 395       | 4    | 0     | 1609   |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 23   | 0     | 9          | 23   | 23    | 20        | 454  | 210   | 0         | 624  | 13    | 1399   |
| Added                                       | 438        | 0    | 76    | 0          | 0    | 0     | 0         | 0    | 250   | 52        | 0    | 0     | 816    |
| Total                                       | 438        | 23   | 76    | 9          | 23   | 23    | 20        | 454  | 460   | 52        | 624  | 13    | 2215   |

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|---|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Maximum Rail Alternative<br>PM Peak Hour |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Volume  | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |          | Total  |
| Type  | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right    | Volume |
| #13 Adeline St./ 5th St./ I-880 SB Ramp   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 241        | 0    | 69    | 138       | 157  | 0     | 0         | 202  | 616      | 1423   |
| Added   | 246        | 189                      | 520   | 0          | 122  | 0     | 0         | 0    | 158   | 348       | 0    | 0        | 1583   |
| Total   | 246        | 189                      | 520   | 241        | 122  | 69    | 138       | 157  | 158   | 348       | 202  | 616      | 3006   |
| #14 Union St./ 5th St./ I-880 North Ramps   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 194                      | 281   | 0          | 144  | 30    | 31        | 97   | 18    | 32        | 31   | 34       | 892    |
| Added   | 0          | 0                        | 158   | 0          | 0    | 0     | 0         | 0    | 0     | 246       | 0    | 0        | 404    |
| Total   | 0          | 194                      | 439   | 0          | 144  | 30    | 31        | 97   | 18    | 278       | 31   | 34       | 1296   |
| #15 7th St./ I-880 NB Ramps / Frontage Rd.  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 197                      | 3     | 2          | 0    | 205   | 0         | 108  | 0     | 0         | 53   | 1        | 569    |
| Added   | 485        | 0                        | 0     | 0          | 0    | 268   | 365       | 18   | 0     | 0         | 5    | 0        | 1141   |
| Total   | 485        | 197                      | 3     | 2          | 0    | 473   | 365       | 126  | 0     | 0         | 58   | 1        | 1710   |
| #16 7th St./ I-880 SB Ramps   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 7     | 378       | 0    | 0        | 385    |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 383  | 674   | 0         | 758  | 0        | 1815   |
| Total   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 383  | 681   | 378       | 758  | 0        | 2200   |
| #17 14th St./ I-880 Frontage Rd.  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 62                       | 130   | 4          | 0    | 0     | 0         | 0    | 0     | 115       | 0    | 7        | 318    |
| Added   | 0          | 365                      | 0     | 0          | 268  | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 633    |
| Total   | 0          | 427                      | 130   | 4          | 268  | 0     | 0         | 0    | 0     | 115       | 0    | 7        | 951    |
| #18 W.Grand Ave./ I-880 Frontage Rd.  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 75         | 72                       | 0     | 759        | 0    | 6     | 86        | 277  | 3     | 0         | 456  | 330      | 2064   |
| Added   | 0          | 186                      | 179   | 0          | 130  | 0     | 0         | 76   | 0     | 138       | 52   | 0        | 761    |
| Total   | 75         | 258                      | 179   | 759        | 130  | 6     | 86        | 353  | 3     | 138       | 508  | 330      | 2825   |
| #134  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 0      |
| Added   | 0          | 0                        | 569   | 0          | 0    | 0     | 0         | 553  | 0     | 682       | 389  | 0        | 2193   |
| Total   | 0          | 0                        | 569   | 0          | 0    | 0     | 0         | 553  | 0     | 682       | 389  | 0        | 2193   |
| #138  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -168                     | 0     | 0          | -123 | -24   | -20       | 0    | 0     | 0         | 0    | 0        | -335   |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 0      |
| Total   | 0          | -168                     | 0     | 0          | -123 | -24   | -20       | 0    | 0     | 0         | 0    | 0        | -335   |
| #158  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -259                     | -163  | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -422   |
| Added   | 0          | 329                      | 157   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 486    |
| Total   | 0          | 70                       | -6    | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 64     |

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|---|------------|--------------------------|-------|------------|------|-------|-----------|-------|-------|-----------|------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Maximum Rail Alternative<br>PM Peak Hour |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Volume  | Northbound |                          |       | Southbound |      |       | Eastbound |       |       | Westbound |      |          | Total  |
| Type  | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru  | Right | Left      | Thru | Right    | Volume |
| #159  |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base  | -259       | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 0         | -105 | 0        | -364   |
| Added   | 329        | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 97   | 0        | 426    |
| Total   | 70         | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 0         | -8   | 0        | 62     |
| #160  |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | -105      | -259 | 0        | -364   |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 97        | 329  | 0        | 426    |
| Total   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | -8        | 70   | 0        | 62     |
| #161  |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | -105 | 0     | 0         | 0     | -150  | 0         | 0    | 0        | -255   |
| Added   | 0          | 0                        | 0     | 0          | 97   | 0     | 0         | 0     | 178   | 0         | 0    | 0        | 275    |
| Total   | 0          | 0                        | 0     | 0          | -8   | 0     | 0         | 0     | 28    | 0         | 0    | 0        | 20     |
| #165  |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | -126 | 0     | 0         | 0     | -534  | 0         | 0    | 0        | -660   |
| Added   | 0          | 0                        | 0     | 0          | 158  | 0     | 0         | 0     | 674   | 0         | 0    | 0        | 832    |
| Total   | 0          | 0                        | 0     | 0          | 32   | 0     | 0         | 0     | 140   | 0         | 0    | 0        | 172    |
| #170  |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base  | 0          | -205                     | -391  | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0        | -596   |
| Added   | 0          | 246                      | 485   | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0        | 731    |
| Total   | 0          | 41                       | 94    | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0        | 135    |
| #177  |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | -214 | 0     | 0         | -163  | 0     | 0         | 0    | 0        | -377   |
| Added   | 0          | 0                        | 0     | 0          | 263  | 0     | 0         | 157   | 0     | 0         | 0    | 0        | 421    |
| Total   | 0          | 0                        | 0     | 0          | 49   | 0     | 0         | -6    | 0     | 0         | 0    | 0        | 44     |
| #178  |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base  | 0          | -323                     | 0     | 0          | 0    | 0     | -116      | -47   | 0     | 0         | 0    | 0        | -486   |
| Added   | 0          | 385                      | 0     | 0          | 0    | 0     | 90        | 67    | 0     | 0         | 0    | 0        | 542    |
| Total   | 0          | 62                       | 0     | 0          | 0    | 0     | -26       | 20    | 0     | 0         | 0    | 0        | 56     |
| #182  |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base  | 0          | -439                     | 0     | 0          | 0    | -297  | 0         | 0     | 0     | 0         | 0    | 0        | -736   |
| Added   | 0          | 475                      | 0     | 0          | 0    | 325   | 0         | 0     | 0     | 0         | 0    | 0        | 799    |
| Total   | 0          | 36                       | 0     | 0          | 0    | 28    | 0         | 0     | 0     | 0         | 0    | 0        | 63     |
| #201  |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | -1043 | 0     | 0         | 0    | 0        | -104   |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 1194  | 0     | 0         | 0    | 0        | 1194   |
| Total   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 151   | 0     | 0         | 0    | 0        | 151    |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
PM Peak Hour

| Volume<br>Type | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total<br>Volume |
|----------------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|-----------------|
|                | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |                 |
| #204           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | -375       | -668 | 0     | 0         | 0    | 0     | 0         | 0    | 0     | -1043           |
| Added          | 0          | 0    | 0     | 413        | 781  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1194            |
| Total          | 0          | 0    | 0     | 38         | 113  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 151             |
| #207           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | -463 | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | -278  | -741            |
| Added          | 0          | 525  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 308   | 833             |
| Total          | 0          | 62   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 30    | 92              |
| #214           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -350      | -391 | 0     | -741            |
| Added          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 348       | 485  | 0     | 833             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -2        | 94   | 0     | 92              |
| #217           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | -19  | 0     | 0         | -47  | 0     | 0         | 0    | 0     | -66             |
| Added          | 0          | 0    | 0     | 0          | 9    | 0     | 0         | 67   | 0     | 0         | 0    | 0     | 75              |
| Total          | 0          | 0    | 0     | 0          | -10  | 0     | 0         | 20   | 0     | 0         | 0    | 0     | 9               |
| #218           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | -39  | 0     | 0          | 0    | 0     | -31       | -16  | 0     | 0         | 0    | 0     | -86             |
| Added          | 0          | 22   | 0     | 0          | 0    | 0     | 51        | 16   | 0     | 0         | 0    | 0     | 89              |
| Total          | 0          | -17  | 0     | 0          | 0    | 0     | 20        | 0    | 0     | 0         | 0    | 0     | 3               |
| #219           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | -70  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -5   | 0     | -75             |
| Added          | 0          | 72   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 5    | 0     | 77              |
| Total          | 0          | 2    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -0   | 0     | 2               |
| #220           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | -19  | -18   | 0         | 0    | 0     | 0         | -5   | 0     | -42             |
| Added          | 0          | 0    | 0     | 0          | 9    | 31    | 0         | 0    | 0     | 0         | 5    | 0     | 44              |
| Total          | 0          | 0    | 0     | 0          | -10  | 13    | 0         | 0    | 0     | 0         | -0   | 0     | 2               |
| #225           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -278 | -5    | -283            |
| Added          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 308  | 5     | 312             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 30   | -0    | 29              |
| #226           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | -16        | 0    | 0     | 0         | -375 | 0     | 0         | 0    | 0     | -391            |
| Added          | 0          | 0    | 0     | 16         | 0    | 0     | 0         | 413  | 0     | 0         | 0    | 0     | 430             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 38   | 0     | 0         | 0    | 0     | 39              |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
PM Peak Hour

| Volume<br>Type | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total<br>Volume |
|----------------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|-----------------|
|                | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |                 |
| #244           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | -302  | -226      | -44  | 0     | 0         | -37  | 0     | -609            |
| Added          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0               |
| Total          | 0          | 0    | 0     | 0          | 0    | -302  | -226      | -44  | 0     | 0         | -37  | 0     | -609            |

## Table J.7-4 (Continued)

| A-PM.CMD Tue Nov 5, 1996 10:49:51 Page 4-1  |         |      |       |         |      |       |         |      |       |         |      |       |              |
|---|---------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|--------------|
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Maximum Rail Alternative<br>PM Peak Hour |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Link Volume Report<br>PM Peak Hour  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Volume Type   | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total Volume |
|   | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total |              |
| #3 Maritime St./ Burma St.  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 595     | 159  | 754   | 109     | 590  | 699   | 50      | 5    | 55    | 0       | 0    | 0     | 1508         |
| Added   | 354     | 210  | 564   | 302     | 514  | 816   | 160     | 92   | 252   | 0       | 0    | 0     | 1632         |
| Total   | 949     | 369  | 1318  | 411     | 1104 | 1515  | 210     | 97   | 307   | 0       | 0    | 0     | 3140         |
| #4 Maritime St./ 14th St.   |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 442     | 224  | 666   | 237     | 704  | 941   | 0       | 0    | 0     | 382     | 133  | 515   | 2122         |
| Added   | 549     | 525  | 1074  | 210     | 354  | 564   | 482     | 362  | 844   | 0       | 0    | 0     | 2482         |
| Total   | 991     | 749  | 1740  | 447     | 1058 | 1505  | 482     | 362  | 844   | 382     | 133  | 515   | 4604         |
| #5 Maritime St./ 7th St. Extension  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 36      | 74   | 110   | 75      | 223  | 298   | 297     | 111  | 408   | 0       | 0    | 0     | 816          |
| Added   | 1055    | 1102 | 2157  | 525     | 549  | 1074  | 1019    | 948  | 1967  | 0       | 0    | 0     | 5198         |
| Total   | 1091    | 1176 | 2267  | 600     | 772  | 1372  | 1316    | 1059 | 2375  | 0       | 0    | 0     | 6014         |
| #6 7th St./ 7th St. Extension   |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 0       | 0    | 0     | 31      | 0    | 31    | 0       | 0    | 0     | 0       | 31   | 31    | 62           |
| Added   | 0       | 0    | 0     | 1102    | 1055 | 2157  | 935     | 683  | 1618  | 758     | 1057 | 1815  | 5590         |
| Total   | 0       | 0    | 0     | 1133    | 1055 | 2188  | 935     | 683  | 1618  | 758     | 1088 | 1846  | 5652         |
| #7  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 324     | 225  | 549   | 0       | 0    | 0     | 346     | 183  | 529   | 182     | 444  | 626   | 1704         |
| Added   | 0       | 0    | 0     | 0       | 0    | 0     | 604     | 399  | 1003  | 399     | 604  | 1003  | 2006         |
| Total   | 324     | 225  | 549   | 0       | 0    | 0     | 950     | 582  | 1532  | 581     | 1048 | 1629  | 3710         |
| #8 Adeline St./ 3rd St.   |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 158     | 102  | 260   | 58      | 108  | 166   | 57      | 90   | 147   | 206     | 179  | 385   | 958          |
| Added   | 955     | 628  | 1583  | 628     | 955  | 1583  | 0       | 0    | 0     | 0       | 0    | 0     | 3166         |
| Total   | 1113    | 730  | 1843  | 686     | 1063 | 1749  | 57      | 90   | 147   | 206     | 179  | 385   | 4124         |
| #9 7th/Middle Harbor Rd   |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 0       | 0    | 0     | 0       | 1    | 1     | 0       | 0    | 0     | 1       | 0    | 1     | 2            |
| Added   | 350     | 275  | 625   | 0       | 0    | 0     | 604     | 427  | 1031  | 683     | 935  | 1618  | 3274         |
| Total   | 350     | 275  | 625   | 0       | 1    | 1     | 604     | 427  | 1031  | 684     | 935  | 1619  | 3276         |
| #10 New Harbor/Mid Harbor Rd  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0            |
| Added   | 935     | 655  | 1590  | 0       | 0    | 0     | 275     | 350  | 625   | 399     | 604  | 1003  | 3218         |
| Total   | 935     | 655  | 1590  | 0       | 0    | 0     | 275     | 350  | 625   | 399     | 604  | 1003  | 3218         |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps   |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 23      | 233  | 256   | 55      | 56   | 111   | 684     | 647  | 1331  | 637     | 463  | 1100  | 2798         |
| Added   | 514     | 302  | 816   | 0       | 0    | 0     | 250     | 438  | 688   | 52      | 76   | 128   | 1632         |
| Total   | 537     | 535  | 1072  | 55      | 56   | 111   | 934     | 1085 | 2019  | 689     | 539  | 1228  | 4430         |

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|---|---------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|--------------|
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Maximum Rail Alternative<br>PM Peak Hour |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Volume Type   | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total Volume |
|   | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total |              |
| #13 Adeline St./ 5th St./ I-880 SB Ramp   |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 0       | 0    | 0     | 310     | 754  | 1064  | 295     | 271  | 566   | 818     | 398  | 1216  | 2846         |
| Added   | 955     | 628  | 1583  | 122     | 189  | 310   | 158     | 246  | 404   | 348     | 520  | 868   | 3166         |
| Total   | 955     | 628  | 1583  | 432     | 943  | 1374  | 453     | 517  | 970   | 1166    | 918  | 2084  | 6012         |
| #14 Union St./ 5th St./ I-880 North Ramps   |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 475     | 194  | 669   | 174     | 259  | 433   | 146     | 61   | 207   | 97      | 378  | 475   | 1784         |
| Added   | 158     | 246  | 404   | 0       | 0    | 0     | 0       | 0    | 0     | 246     | 158  | 404   | 809          |
| Total   | 633     | 440  | 1073  | 174     | 259  | 433   | 146     | 61   | 207   | 343     | 536  | 879   | 2593         |
| #15 7th St./ I-880 NB Ramps / Frontage Rd.  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 200     | 0    | 200   | 207     | 198  | 405   | 108     | 258  | 366   | 54      | 113  | 167   | 1138         |
| Added   | 485     | 0    | 485   | 268     | 365  | 633   | 383     | 758  | 1141  | 5       | 18   | 23    | 2283         |
| Total   | 685     | 0    | 685   | 475     | 563  | 1038  | 491     | 1016 | 1507  | 59      | 131  | 190   | 3421         |
| #16 7th St./ I-880 SB Ramps   |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 0       | 385  | 385   | 0       | 0    | 0     | 7       | 0    | 7     | 378     | 0    | 378   | 770          |
| Added   | 0       | 674  | 674   | 0       | 0    | 0     | 1057    | 758  | 1815  | 758     | 383  | 1141  | 3630         |
| Total   | 0       | 1059 | 1059  | 0       | 0    | 0     | 1064    | 758  | 1822  | 1136    | 383  | 1519  | 4400         |
| #17 14th St./ I-880 Frontage Rd.  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 192     | 115  | 307   | 4       | 69   | 73    | 0       | 0    | 0     | 122     | 134  | 256   | 636          |
| Added   | 365     | 268  | 633   | 268     | 365  | 633   | 0       | 0    | 0     | 0       | 0    | 0     | 1266         |
| Total   | 557     | 383  | 940   | 272     | 434  | 706   | 0       | 0    | 0     | 122     | 134  | 256   | 1902         |
| #18 W.Grand Ave./ I-880 Frontage Rd.  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 147     | 3    | 150   | 765     | 488  | 1253  | 366     | 537  | 903   | 786     | 1036 | 1822  | 4128         |
| Added   | 365     | 268  | 633   | 130     | 186  | 316   | 76      | 52   | 128   | 190     | 255  | 445   | 1522         |
| Total   | 512     | 271  | 783   | 895     | 674  | 1569  | 442     | 589  | 1031  | 976     | 1291 | 2267  | 5650         |
| #134  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0            |
| Added   | 569     | 682  | 1251  | 0       | 0    | 0     | 553     | 389  | 942   | 1071    | 1122 | 2193  | 4386         |
| Total   | 569     | 682  | 1251  | 0       | 0    | 0     | 553     | 389  | 942   | 1071    | 1122 | 2193  | 4386         |
| #138  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | -168    | -123 | -291  | -147    | -188 | -335  | -20     | -24  | -44   | 0       | 0    | 0     | -670         |
| Added   | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0            |
| Total   | -168    | -123 | -291  | -147    | -188 | -335  | -20     | -24  | -44   | 0       | 0    | 0     | -670         |
| #158  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | -422    | 0    | -422  | 0       | -259 | -259  | 0       | 0    | 0     | 0       | -163 | -163  | -844         |
| Added   | 486     | 0    | 486   | 0       | 329  | 329   | 0       | 0    | 0     | 0       | 157  | 157   | 972          |
| Total   | 64      | 0    | 64    | 0       | 70   | 70    | 0       | 0    | 0     | 0       | -6   | -6    | 128          |



Table J.7-4 (Continued)

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|---|---------|------|-------|---------|------|-------|---------|------|-------|---------|-------|-------|--------|
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Maximum Rail Alternative<br>PM Peak Hour |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Volume  | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |       |       | Total  |
| Type  | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out   | Total | Volume |
| #159  |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base  | -259    | 0    | -259  | 0       | 0    | 0     | 0       | -364 | -364  | -105    | 0     | -105  | -728   |
| Added   | 329     | 0    | 329   | 0       | 0    | 0     | 0       | 426  | 426   | 97      | 0     | 97    | 851    |
| Total   | 70      | 0    | 70    | 0       | 0    | 0     | 0       | 62   | 62    | -8      | 0     | -8    | 123    |
| #160  |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base  | 0       | -105 | -105  | 0       | 0    | 0     | 0       | -259 | -259  | -364    | 0     | -364  | -728   |
| Added   | 0       | 97   | 97    | 0       | 0    | 0     | 0       | 329  | 329   | 426     | 0     | 426   | 851    |
| Total   | 0       | -8   | -8    | 0       | 0    | 0     | 0       | 70   | 70    | 62      | 0     | 62    | 123    |
| #161  |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base  | 0       | -255 | -255  | -105    | 0    | -105  | -150    | 0    | -150  | 0       | 0     | 0     | -510   |
| Added   | 0       | 275  | 275   | 97      | 0    | 97    | 178     | 0    | 178   | 0       | 0     | 0     | 549    |
| Total   | 0       | 20   | 20    | -8      | 0    | -8    | 28      | 0    | 28    | 0       | 0     | 0     | 39     |
| #165  |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base  | 0       | -660 | -660  | -126    | 0    | -126  | -534    | 0    | -534  | 0       | 0     | 0     | -1320  |
| Added   | 0       | 832  | 832   | 158     | 0    | 158   | 674     | 0    | 674   | 0       | 0     | 0     | 1664   |
| Total   | 0       | 172  | 172   | 32      | 0    | 32    | 140     | 0    | 140   | 0       | 0     | 0     | 344    |
| #170  |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base  | -596    | 0    | -596  | 0       | -205 | -205  | 0       | 0    | 0     | 0       | -391  | -391  | -1192  |
| Added   | 731     | 0    | 731   | 0       | 246  | 246   | 0       | 0    | 0     | 0       | 485   | 485   | 1462   |
| Total   | 135     | 0    | 135   | 0       | 41   | 41    | 0       | 0    | 0     | 0       | 94    | 94    | 270    |
| #177  |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base  | 0       | -214 | -214  | -214    | 0    | -214  | -163    | 0    | -163  | 0       | -163  | -163  | -754   |
| Added   | 0       | 263  | 263   | 263     | 0    | 263   | 157     | 0    | 157   | 0       | 157   | 157   | 841    |
| Total   | 0       | 49   | 49    | 49      | 0    | 49    | -6      | 0    | -6    | 0       | -6    | -6    | 87     |
| #178  |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base  | -323    | 0    | -323  | 0       | -439 | -439  | -163    | 0    | -163  | 0       | -47   | -47   | -972   |
| Added   | 385     | 0    | 385   | 0       | 475  | 475   | 157     | 0    | 157   | 0       | 67    | 67    | 1083   |
| Total   | 62      | 0    | 62    | 0       | 36   | 36    | -6      | 0    | -6    | 0       | 20    | 20    | 111    |
| #182  |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base  | -439    | 0    | -439  | -297    | -439 | -736  | 0       | -297 | -297  | 0       | 0     | 0     | -1472  |
| Added   | 475     | 0    | 475   | 325     | 475  | 799   | 0       | 325  | 325   | 0       | 0     | 0     | 1599   |
| Total   | 36      | 0    | 36    | 28      | 36   | 63    | 0       | 28   | 28    | 0       | 0     | 0     | 127    |
| #201  |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base  | 0       | 0    | 0     | 0       | 0    | 0     | -1043   | 0    | -1043 | 0       | -1043 | -1043 | -208   |
| Added   | 0       | 0    | 0     | 0       | 0    | 0     | 1194    | 0    | 1194  | 0       | 1194  | 1194  | 2388   |
| Total   | 0       | 0    | 0     | 0       | 0    | 0     | 151     | 0    | 151   | 0       | 151   | 151   | 302    |

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|---|---------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|--------|
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Maximum Rail Alternative<br>PM Peak Hour |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Volume  | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total  |
| Type  | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | Volume |
| #204  |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | 0       | -668 | -668  | -1043   | 0    | -1043 | 0       | 0    | 0     | 0       | -375 | -375  | -2086  |
| Added   | 0       | 781  | 781   | 1194    | 0    | 1194  | 0       | 0    | 0     | 0       | 413  | 413   | 2388   |
| Total   | 0       | 113  | 113   | 151     | 0    | 151   | 0       | 0    | 0     | 0       | 38   | 38    | 302    |
| #207  |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | -463    | 0    | -463  | 0       | -741 | -741  | 0       | 0    | 0     | -278    | 0    | -278  | -1482  |
| Added   | 525     | 0    | 525   | 0       | 833  | 833   | 0       | 0    | 0     | 308     | 0    | 308   | 1666   |
| Total   | 62      | 0    | 62    | 0       | 92   | 92    | 0       | 0    | 0     | 30      | 0    | 30    | 184    |
| #214  |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | 0       | -350 | -350  | 0       | 0    | 0     | 0       | -391 | -391  | -741    | 0    | -741  | -1482  |
| Added   | 0       | 348  | 348   | 0       | 0    | 0     | 0       | 485  | 485   | 833     | 0    | 833   | 1666   |
| Total   | 0       | -2   | -2    | 0       | 0    | 0     | 0       | 94   | 94    | 92      | 0    | 92    | 184    |
| #217  |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | 0       | -19  | -19   | -19     | 0    | -19   | -47     | 0    | -47   | 0       | -47  | -47   | -132   |
| Added   | 0       | 9    | 9     | 9       | 0    | 9     | 67      | 0    | 67    | 0       | 67   | 67    | 151    |
| Total   | 0       | -10  | -10   | -10     | 0    | -10   | 20      | 0    | 20    | 0       | 20   | 20    | 19     |
| #218  |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | -39     | 0    | -39   | 0       | -70  | -70   | -47     | 0    | -47   | 0       | -16  | -16   | -172   |
| Added   | 22      | 0    | 22    | 0       | 72   | 72    | 67      | 0    | 67    | 0       | 16   | 16    | 177    |
| Total   | -17     | 0    | -17   | 0       | 2    | 2     | 20      | 0    | 20    | 0       | 0    | 0     | 5      |
| #219  |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | -70     | 0    | -70   | 0       | -70  | -70   | 0       | -5   | -5    | -5      | 0    | -5    | -150   |
| Added   | 72      | 0    | 72    | 0       | 72   | 72    | 0       | 5    | 5     | 5       | 0    | 5     | 154    |
| Total   | 2       | 0    | 2     | 0       | 2    | 2     | 0       | -0   | -0    | -0      | 0    | -0    | 4      |
| #220  |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | 0       | -19  | -19   | -37     | 0    | -37   | 0       | -23  | -23   | -5      | 0    | -5    | -84    |
| Added   | 0       | 9    | 9     | 39      | 0    | 39    | 0       | 35   | 35    | 5       | 0    | 5     | 88     |
| Total   | 0       | -10  | -10   | 2       | 0    | 2     | 0       | 12   | 12    | -0      | 0    | -0    | 4      |
| #225  |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | 0       | 0    | 0     | 0       | -5   | -5    | 0       | -278 | -278  | -283    | 0    | -283  | -566   |
| Added   | 0       | 0    | 0     | 0       | 5    | 5     | 0       | 308  | 308   | 312     | 0    | 312   | 625    |
| Total   | 0       | 0    | 0     | 0       | -0   | -0    | 0       | 30   | 30    | 29      | 0    | 29    | 59     |
| #226  |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | 0       | 0    | 0     | -16     | 0    | -16   | -375    | 0    | -375  | 0       | -391 | -391  | -782   |
| Added   | 0       | 0    | 0     | 16      | 0    | 16    | 413     | 0    | 413   | 0       | 430  | 430   | 859    |
| Total   | 0       | 0    | 0     | 0       | 0    | 0     | 38      | 0    | 38    | 0       | 39   | 39    | 77     |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
PM Peak Hour

| Volume<br>Type | NB Link |     |       | SB Link |      |       | EB Link |      |       | WB Link |     |       | Total<br>Volume |
|----------------|---------|-----|-------|---------|------|-------|---------|------|-------|---------|-----|-------|-----------------|
|                | In      | Out | Total | In      | Out  | Total | In      | Out  | Total | In      | Out | Total |                 |
| #244           |         |     |       |         |      |       |         |      |       |         |     |       |                 |
| Base           | 0       | 0   | 0     | -302    | -226 | -528  | -270    | -339 | -609  | -37     | -44 | -81   | -1218           |
| Added          | 0       | 0   | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0   | 0     | 0               |
| Total          | 0       | 0   | 0     | -302    | -226 | -528  | -270    | -339 | -609  | -37     | -44 | -81   | -1218           |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
PM Peak Hour

| Impact Analysis Report |                                   |      |          |       |        |          |       |        |        |     |
|------------------------|-----------------------------------|------|----------|-------|--------|----------|-------|--------|--------|-----|
| Level Of Service       |                                   |      |          |       |        |          |       |        |        |     |
| Intersection           |                                   | Base |          |       | Future |          |       | Change |        |     |
|                        |                                   | LOS  | Del/ Veh | V/ C  | LOS    | Del/ Veh | V/ C  |        |        | in  |
| #                      | 3 Maritime St./ Burma St.         | B    | 7.2      | 0.211 | B      | 9.5      | 0.317 | +      | 2.293  | D/V |
| #                      | 4 Maritime St./ 14th St.          | C    | 15.9     | 0.392 | C      | 19.9     | 0.762 | +      | 3.975  | D/V |
| #                      | 5 Maritime St./ 7th St. Extension | B    | 5.8      | 0.080 | B      | 13.7     | 0.677 | +      | 7.904  | D/V |
| #                      | 6 7th St./ 7th St. Extension      | C    | 20.9     | 0.000 | B      | 14.4     | 0.632 | -      | 6.444  | D/V |
| #                      | 8 Adeline St./ 3rd St.            | C    | 20.4     | 0.084 | F      | 64.3     | 0.656 | +      | 43.947 | D/V |
| #                      | 9 7th/Middle Harbor Rd            | C    | 15.8     | 0.000 | C      | 16.4     | 0.571 | +      | 0.612  | D/V |
| #                      | 10 New Harbor/Mid Harbor Rd       |      | 0.0      | 0.000 | C      | 15.2     | 0.621 | +      | 15.243 | D/V |
| #                      | 12 Maritime St./ W.Grand Ave./ I- | B    | 12.4     | 0.237 | C      | 18.8     | 0.411 | +      | 6.400  | D/V |
| #                      | 13 Adeline St./ 5th St./ I-880 SB | C    | 17.6     | 0.328 | D      | 29.7     | 0.504 | +      | 12.076 | D/V |
| #                      | 14 Union St./ 5th St./ I-880 Nort | B    | 12.5     | 0.178 | C      | 16.8     | 0.226 | +      | 4.303  | D/V |
| #                      | 15 7th St./ I-880 NB Ramps / Fron | B    | 11.5     | 0.135 | C      | 18.2     | 0.397 | +      | 6.724  | D/V |
| #                      | 16 7th St./ I-880 SB Ramps        | A    | 2.6      | 0.113 | B      | 5.7      | 0.557 | +      | 3.122  | D/V |
| #                      | 17 14th St./ I-880 Frontage Rd.   | A    | 1.9      | 0.000 | C      | 2.1      | 0.000 | +      | 0.000  | V/C |
| #                      | 18 W.Grand Ave./ I-880 Frontage R | C    | 21.1     | 0.505 | C      | 22.1     | 0.639 | +      | 0.988  | D/V |

Table J.7-4 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #3 Maritime St./ Burma St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.317  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 9.5  
Optimal Cycle: 58 Level Of Service: B

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |   |   |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|---|---|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T | R |
| Control:    | Protected   |    |    | Protected   |    |    | Protected  |    |    | Protected  |   |   |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |   |   |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 0          | 0 | 0 |
| Lanes:      | 1           | 0  | 1  | 1           | 0  | 1  | 0          | 0  | 1  | 0          | 0 | 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 5    | 590  | 0    | 0    | 109  | 0    | 0    | 0    | 50   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 5    | 590  | 0    | 0    | 109  | 0    | 0    | 0    | 50   | 0    | 0    | 0    |
| Added Vol:   | 0    | 354  | 0    | 0    | 210  | 92   | 160  | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 5    | 944  | 0    | 0    | 319  | 92   | 160  | 0    | 50   | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 5    | 944  | 0    | 0    | 319  | 92   | 160  | 0    | 50   | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 5    | 944  | 0    | 0    | 319  | 92   | 160  | 0    | 50   | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 5    | 992  | 0    | 0    | 335  | 96   | 160  | 0    | 50   | 0    | 0    | 0    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 2.00 | 0.00 | 1.00 | 1.55 | 0.45 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 1805 | 3800 | 0    | 1900 | 2865 | 821  | 1805 | 0    | 1615 | 0    | 0    | 0    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.26 | 0.00 | 0.00 | 0.12 | 0.12 | 0.09 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.24 | 0.62 | 0.00 | 0.00 | 0.48 | 0.48 | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.01 | 0.42 | 0.00 | 0.00 | 0.24 | 0.24 | 0.44 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 18.7 | 6.4  | 0.0  | 0.0  | 9.9  | 9.9  | 23.3 | 0.0  | 21.4 | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 18.7 | 6.4  | 0.0  | 0.0  | 9.9  | 9.9  | 23.3 | 0.0  | 21.4 | 0.0  | 0.0  | 0.0  |
| Queue:       | 0    | 14   | 0    | 0    | 5    | 2    | 4    | 0    | 1    | 0    | 0    | 0    |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #4 Maritime St./ 14th St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.762  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 19.9  
Optimal Cycle: 58 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Permitted  |    |    | Permitted  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Ovl        |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 1           | 0  | 1  | 1           | 0  | 1  | 0          | 0  | 1  | 0          | 0  | 1  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 414  | 28   | 105  | 132  | 0    | 0    | 0    | 0    | 92   | 0    | 290  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 414  | 28   | 105  | 132  | 0    | 0    | 0    | 0    | 92   | 0    | 290  |
| Added Vol:   | 295  | 255  | 0    | 0    | 142  | 68   | 100  | 0    | 382  | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 295  | 669  | 28   | 105  | 274  | 68   | 100  | 0    | 382  | 92   | 0    | 290  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 295  | 669  | 28   | 105  | 274  | 68   | 100  | 0    | 382  | 92   | 0    | 290  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 295  | 669  | 28   | 105  | 274  | 68   | 100  | 0    | 382  | 92   | 0    | 290  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 295  | 702  | 29   | 105  | 288  | 71   | 100  | 0    | 382  | 92   | 0    | 290  |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.99 | 0.99 | 0.95 | 0.97 | 0.97 | 0.58 | 1.00 | 0.58 | 0.40 | 1.00 | 0.85 |
| Lanes:      | 1.00 | 1.92 | 0.08 | 1.00 | 1.60 | 0.40 | 0.21 | 0.00 | 0.79 | 1.00 | 0.00 | 1.00 |
| Final Sat.: | 1805 | 3613 | 149  | 1805 | 2957 | 729  | 227  | 0    | 868  | 760  | 0    | 1615 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.16 | 0.19 | 0.19 | 0.06 | 0.10 | 0.10 | 0.44 | 0.00 | 0.44 | 0.12 | 0.00 | 0.18 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.20 | 0.26 | 0.26 | 0.13 | 0.20 | 0.20 | 0.52 | 0.00 | 0.72 | 0.52 | 0.00 | 0.52 |
| Volume/Cap:  | 0.84 | 0.74 | 0.74 | 0.44 | 0.49 | 0.49 | 0.84 | 0.00 | 0.61 | 0.23 | 0.00 | 0.34 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 36.1 | 23.8 | 23.8 | 26.7 | 23.3 | 23.3 | 20.4 | 0.0  | 5.5  | 8.3  | 0.0  | 9.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 36.1 | 23.8 | 23.8 | 26.7 | 23.3 | 23.3 | 20.4 | 0.0  | 5.5  | 8.3  | 0.0  | 9.0  |
| Queue:       | 9    | 19   | 1    | 3    | 7    | 2    | 3    | 0    | 6    | 1    | 0    | 5    |

|  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
|--|--|--------------------------|------|--------------------------|-------------|------|------|------------|------|------|------------|----------|------|---|---|---|
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| FISCO/Port Vision 2000 EIS/EIR                         |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Maximum Marine/Maximum Rail Alternative                |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| PM Peak Hour   |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Level Of Service Computation Report                    |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| 1994 HCM Operations Method (Future Volume Alternative) |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Intersection #5 Maritime St./ 7th St. Extension        |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| .....  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Cycle (sec):   |  | 100                      |      | Critical Vol./Cap. (X):  |             |      |      |            |      |      |            | 0.677    |      |   |   |   |
| Loss Time (sec):                                       |  | 8 (Y+R = 4 sec)          |      | Average Delay (sec/veh): |             |      |      |            |      |      |            | 13.7     |      |   |   |   |
| Optimal Cycle:   |  | 48                       |      | Level Of Service         |             |      |      |            |      |      |            | B        |      |   |   |   |
| .....  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Approach:  |  | North Bound              |      |                          | South Bound |      |      | East Bound |      |      | West Bound |          |      |   |   |   |
| Movement:  |  | L - T - R                |      |                          | L - T - R   |      |      | L - T - R  |      |      | L - T - R  |          |      |   |   |   |
| Control:   |  | Protected                |      |                          | Protected   |      |      | Protected  |      |      | Protected  |          |      |   |   |   |
| Rights:  |  | Include                  |      |                          | Ovl         |      |      | Ovl        |      |      | Include    |          |      |   |   |   |
| Min. Green:  |  | 10                       | 20   | 0                        | 0           | 20   | 20   | 10         | 0    | 20   | 0          | 0        | 0    |   |   |   |
| Lanes:   |  | 2                        | 0    | 2                        | 0           | 0    | 1    | 2          | 0    | 0    | 0          | 1        | 0    | 0 | 0 | 0 |
| .....  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Volume Module:   |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Base Vol:  |  | 36                       | 0    | 0                        | 0           | 0    | 75   | 223        | 0    | 74   | 0          | 0        | 0    |   |   |   |
| Growth Adj:  |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00     | 1.00 |   |   |   |
| Initial Bse:   |  | 36                       | 0    | 0                        | 0           | 0    | 75   | 223        | 0    | 74   | 0          | 0        | 0    |   |   |   |
| Added Vol:   |  | 730                      | 325  | 0                        | 0           | 307  | 218  | 224        | 0    | 795  | 0          | 0        | 0    |   |   |   |
| PasserByVol:   |  | 0                        | 0    | 0                        | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0        | 0    |   |   |   |
| Initial Fut:   |  | 766                      | 325  | 0                        | 0           | 307  | 293  | 447        | 0    | 869  | 0          | 0        | 0    |   |   |   |
| User Adj:  |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00     | 1.00 |   |   |   |
| PHF Adj:   |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00     | 1.00 |   |   |   |
| PHF Volume:  |  | 766                      | 325  | 0                        | 0           | 307  | 293  | 447        | 0    | 869  | 0          | 0        | 0    |   |   |   |
| Reduct Vol:  |  | 0                        | 0    | 0                        | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0        | 0    |   |   |   |
| Reduced Vol:   |  | 766                      | 325  | 0                        | 0           | 307  | 293  | 447        | 0    | 869  | 0          | 0        | 0    |   |   |   |
| PCE Adj:   |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00     | 1.00 |   |   |   |
| MLF Adj:   |  | 1.03                     | 1.05 | 1.00                     | 1.00        | 1.05 | 1.00 | 1.03       | 1.00 | 1.00 | 1.00       | 1.00     | 1.00 |   |   |   |
| Final Vol.:  |  | 789                      | 342  | 0                        | 0           | 322  | 293  | 460        | 0    | 869  | 0          | 0        | 0    |   |   |   |
| .....  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Saturation Flow Module:                                |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Sat/Lane:  |  | 1900                     | 1900 | 1900                     | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900     | 1900 |   |   |   |
| Adjustment:  |  | 0.95                     | 1.00 | 1.00                     | 1.00        | 1.00 | 0.85 | 0.95       | 1.00 | 0.85 | 1.00       | 1.00     | 1.00 |   |   |   |
| Lanes:   |  | 2.00                     | 2.00 | 0.00                     | 0.00        | 2.00 | 1.00 | 2.00       | 0.00 | 1.00 | 0.00       | 0.00     | 0.00 |   |   |   |
| Final Sat.:  |  | 3610                     | 3800 | 0                        | 0           | 3800 | 1615 | 3610       | 0    | 1615 | 0          | 0        | 0    |   |   |   |
| .....  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Capacity Analysis Module:                              |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Vol/Sat:   |  | 0.22                     | 0.09 | 0.00                     | 0.00        | 0.08 | 0.18 | 0.13       | 0.00 | 0.54 | 0.00       | 0.00     | 0.00 |   |   |   |
| Crit Moves:  |  | ****                     |      |                          |             | **** |      |            |      | **** |            |          |      |   |   |   |
| Green/Cycle:   |  | 0.29                     | 0.49 | 0.00                     | 0.00        | 0.20 | 0.63 | 0.43       | 0.00 | 0.72 | 0.00       | 0.00     | 0.00 |   |   |   |
| Volume/Cap:  |  | 0.75                     | 0.18 | 0.00                     | 0.00        | 0.42 | 0.29 | 0.30       | 0.00 | 0.75 | 0.00       | 0.00     | 0.00 |   |   |   |
| .....  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Level Of Service Module:                               |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |
| Delay/Veh:   |  | 22.8                     | 9.1  | 0.0                      | 0.0         | 22.8 | 5.5  | 12.2       | 0.0  | 7.4  | 0.0        | 0.0      | 0.0  |   |   |   |
| User DelAdj:   |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00     | 1.00 |   |   |   |
| AdjDel/Veh:  |  | 22.8                     | 9.1  | 0.0                      | 0.0         | 22.8 | 5.5  | 12.2       | 0.0  | 7.4  | 0.0        | 0.0      | 0.0  |   |   |   |
| Queue:   |  | 21                       | 5    | 0                        | 0           | 8    | 4    | 8          | 0    | 15   | 0          | 0        | 0    |   |   |   |
| .....  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |   |   |

|  |  |                          |  |  |  |  |  |  |  |  |  |          |  |
|--|--|--------------------------|--|--|--|--|--|--|--|--|--|----------|--|
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| FISCO/Port Vision 2000 EIS/EIR   |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Maximum Marine/Maximum Rail Alternative                                      |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| PM Peak Hour   |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Level Of Service Computation Report  |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| 1994 HCM Operations Method (Future Volume Alternative)                       |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Intersection #6 7th St./ 7th St. Extension                                   |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Cycle (sec): 100 Critical Vol./Cap. (X): 0.632                               |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 14.4               |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Optimal Cycle: 58 Level Of Service: B  |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Approach: North Bound South Bound East Bound West Bound                      |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Movement: L - T - R L - T - R L - T - R L - T - R                            |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Control: Protected Protected Protected Protected                             |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Rights: Include Include Include Ovl  |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Min. Green: 0 0 0 10 0 20 10 20 20 0 20 20                                   |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Lanes: 0 0 0 0 2 0 0 0 1 2 0 2 0 0 0 0 1 1 1                                 |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Volume Module:   |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Base Vol: 0 0 0 31 0 0 0 0 0 0 0 0 0 0                                       |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Initial Bse: 0 0 0 31 0 0 0 0 0 0 0 0 0 0                                    |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Added Vol: 0 0 0 683 0 418 562 373 0 0 265 494                               |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0                                       |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Initial Fut: 0 0 0 714 0 418 562 373 0 0 265 494                             |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00        |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00         |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| PHF Volume: 0 0 0 714 0 418 562 373 0 0 265 494                              |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Reduced Vol: 0 0 0 714 0 418 562 373 0 0 265 494                             |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00         |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| MLF Adj: 1.00 1.00 1.00 1.03 1.00 1.00 1.03 1.05 1.00 1.00 1.10 1.10         |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Final Vol.: 0 0 0 736 0 418 579 392 0 0 291 543                              |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Saturation Flow Module:  |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900        |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Adjustment: 1.00 1.00 1.00 0.95 1.00 0.85 0.95 1.00 1.00 1.00 0.90 0.90      |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Lanes: 0.00 0.00 0.00 2.00 0.00 1.00 2.00 2.00 0.00 0.00 1.05 1.95           |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Final Sat.: 0 0 0 3610 0 1615 3610 3800 0 0 1790 3340                        |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Capacity Analysis Module:  |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Vol/Sat: 0.00 0.00 0.00 0.20 0.00 0.26 0.16 0.10 0.00 0.00 0.16 0.16         |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Crit Moves: **** **** ****   |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Green/Cycle: 0.00 0.00 0.00 0.41 0.00 0.41 0.25 0.51 0.00 0.00 0.26 0.67     |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Volume/Cap: 0.00 0.00 0.00 0.50 0.00 0.63 0.63 0.20 0.00 0.00 0.63 0.24      |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Level Of Service Module:   |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Delay/Veh: 0.0 0.0 0.0 14.4 0.0 16.6 22.4 8.6 0.0 0.0 22.0 4.3               |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| AdjDel/Veh: 0.0 0.0 0.0 14.4 0.0 16.6 22.4 8.6 0.0 0.0 22.0 4.3              |  |                          |  |  |  |  |  |  |  |  |  |          |  |
| Queue: 0 0 0 15 0 10 15 6 0 0 8 6  |  |                          |  |  |  |  |  |  |  |  |  |          |  |



Table J.7-4 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.656  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 64.3  
Optimal Cycle: 92 Level Of Service: F

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound  |    |    | West Bound  |    |    |
|-------------|-------------|----|----|-------------|----|----|-------------|----|----|-------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L           | T  | R  | L           | T  | R  |
| Control:    | Split Phase |    |    | Split Phase |    |    | Split Phase |    |    | Split Phase |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include     |    |    | Include     |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10          | 20 | 20 | 10          | 20 | 20 |
| Lanes:      | 0           | 1  | 0  | 0           | 1  | 0  | 0           | 1  | 0  | 0           | 1  | 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 36   | 0    | 122  | 43   | 0    | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 36   | 0    | 122  | 43   | 0    | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Added Vol:   | 0    | 955  | 0    | 0    | 628  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 36   | 955  | 122  | 43   | 628  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 36   | 955  | 122  | 43   | 628  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 36   | 955  | 122  | 43   | 628  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 38   | 1003 | 128  | 45   | 659  | 16   | 30   | 14   | 13   | 89   | 39   | 78   |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 | 0.95 | 0.93 | 0.93 | 0.95 | 0.90 | 0.90 |
| Lanes:      | 0.06 | 1.72 | 0.22 | 0.12 | 1.84 | 0.04 | 1.00 | 0.52 | 0.48 | 0.84 | 0.39 | 0.77 |
| Final Sat.: | 121  | 3195 | 408  | 238  | 3478 | 84   | 1805 | 916  | 851  | 1512 | 663  | 1325 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.31 | 0.31 | 0.31 | 0.19 | 0.19 | 0.19 | 0.02 | 0.02 | 0.02 | 0.06 | 0.06 | 0.06 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.28 | 0.28 | 0.28 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Volume/Cap:  | 1.12 | 1.12 | 1.12 | 0.95 | 0.95 | 0.95 | 0.08 | 0.08 | 0.08 | 0.29 | 0.29 | 0.29 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 88.4 | 88.4 | 88.4 | 40.7 | 40.7 | 40.7 | 21.0 | 21.0 | 21.0 | 22.0 | 22.0 | 22.0 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 88.4 | 88.4 | 88.4 | 40.7 | 40.7 | 40.7 | 21.0 | 21.0 | 21.0 | 22.0 | 22.0 | 22.0 |
| Queue:       | 3    | 51   | 9    | 3    | 22   | 1    | 1    | 0    | 0    | 2    | 1    | 2    |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #9 7th/Middle Harbor Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.571  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 16.4  
Optimal Cycle: 58 Level Of Service: C

| Approach:   | North Bound |   |    | South Bound |   |   | East Bound |    |    | West Bound |    |   |
|-------------|-------------|---|----|-------------|---|---|------------|----|----|------------|----|---|
| Movement:   | L           | T | R  | L           | T | R | L          | T  | R  | L          | T  | R |
| Control:    | Protected   |   |    | Protected   |   |   | Protected  |    |    | Protected  |    |   |
| Rights:     | Include     |   |    | Include     |   |   | Include    |    |    | Include    |    |   |
| Min. Green: | 10          | 0 | 20 | 0           | 0 | 0 | 0          | 20 | 20 | 10         | 20 | 0 |
| Lanes:      | 1           | 0 | 0  | 0           | 0 | 0 | 0          | 0  | 1  | 1          | 0  | 1 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    |
| Added Vol:   | 4    | 0    | 346  | 0    | 0    | 0    | 0    | 589  | 15   | 260  | 423  | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 4    | 0    | 346  | 0    | 0    | 0    | 0    | 589  | 15   | 260  | 423  | 1    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 4    | 0    | 346  | 0    | 0    | 0    | 0    | 589  | 15   | 260  | 423  | 1    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 4    | 0    | 346  | 0    | 0    | 0    | 0    | 589  | 15   | 260  | 423  | 1    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 4    | 0    | 346  | 0    | 0    | 0    | 0    | 619  | 16   | 260  | 444  | 1    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.95 | 0.05 | 1.00 | 1.99 | 0.01 |
| Final Sat.: | 1805 | 0    | 1615 | 0    | 0    | 0    | 0    | 3704 | 96   | 1805 | 3791 | 9    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.17 | 0.17 | 0.14 | 0.12 | 0.12 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.38 | 0.00 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 | 0.29 | 0.29 | 0.25 | 0.54 | 0.54 |
| Volume/Cap:  | 0.01 | 0.00 | 0.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.57 | 0.57 | 0.57 | 0.21 | 0.21 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 12.6 | 0.0  | 17.0 | 0.0  | 0.0  | 0.0  | 0.0  | 19.9 | 19.9 | 22.4 | 7.6  | 7.6  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 12.6 | 0.0  | 17.0 | 0.0  | 0.0  | 0.0  | 0.0  | 19.9 | 19.9 | 22.4 | 7.6  | 7.6  |
| Queue:       | 0    | 0    | 8    | 0    | 0    | 0    | 0    | 15   | 1    | 7    | 6    | 0    |

|  |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
|--|-----------------|--------------------------|------|--------------------------|------|------|------------|-----------|-------|------------|------|------|---|---|---|---|
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| FISCO/Port Vision 2000 EIS/EIR                         |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Maximum Marine/Maximum Rail Alternative                |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| PM Peak Hour   |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Level Of Service Computation Report                    |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| 1994 HCM Operations Method (Future Volume Alternative) |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| *****  |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Intersection #10 New Harbor/Mid Harbor Rd              |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| *****  |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Cycle (sec):   | 100             |                          |      | Critical Vol./Cap. (X):  |      |      |            |           | 0.621 |            |      |      |   |   |   |   |
| Loss Time (sec):                                       | 8 (Y+R = 4 sec) |                          |      | Average Delay (sec/veh): |      |      |            |           | 15.2  |            |      |      |   |   |   |   |
| Optimal Cycle:   | 48              |                          |      | Level Of Service:        |      |      |            |           | C     |            |      |      |   |   |   |   |
| *****  |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Approach:  | North Bound     |                          |      | South Bound              |      |      | East Bound |           |       | West Bound |      |      |   |   |   |   |
| Movement:  | L               | T                        | R    | L                        | T    | R    | L          | T         | R     | L          | T    | R    |   |   |   |   |
| ----- ----- ----- -----                                |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Control:   | Protected       |                          |      | Protected                |      |      | Protected  |           |       | Protected  |      |      |   |   |   |   |
| Rights:  | Ovl             |                          |      | Include                  |      |      | Include    |           |       | Include    |      |      |   |   |   |   |
| Min. Green:  | 10              | 0                        | 20   | 0                        | 0    | 0    | 0          | 20        | 20    | 10         | 20   | 0    |   |   |   |   |
| Lanes:   | 1               | 0                        | 0    | 0                        | 1    | 0    | 0          | 0         | 1     | 1          | 0    | 1    | 0 | 2 | 0 | 0 |
| ----- ----- ----- -----                                |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Volume Module:   |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Base Vol:  | 0               | 0                        | 0    | 0                        | 0    | 0    | 0          | 0         | 0     | 0          | 0    | 0    |   |   |   |   |
| Growth Adj:  | 1.00            | 1.00                     | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |   |
| Initial Bse:   | 0               | 0                        | 0    | 0                        | 0    | 0    | 0          | 0         | 0     | 0          | 0    | 0    |   |   |   |   |
| Added Vol:   | 346             | 0                        | 589  | 0                        | 0    | 0    | 0          | 15        | 260   | 395        | 4    | 0    |   |   |   |   |
| PasserByVol:   | 0               | 0                        | 0    | 0                        | 0    | 0    | 0          | 0         | 0     | 0          | 0    | 0    |   |   |   |   |
| Initial Fut:   | 346             | 0                        | 589  | 0                        | 0    | 0    | 0          | 15        | 260   | 395        | 4    | 0    |   |   |   |   |
| User Adj:  | 1.00            | 1.00                     | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |   |
| PHF Adj:   | 1.00            | 1.00                     | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |   |
| PHF Volume:  | 346             | 0                        | 589  | 0                        | 0    | 0    | 0          | 15        | 260   | 395        | 4    | 0    |   |   |   |   |
| Reduct Vol:  | 0               | 0                        | 0    | 0                        | 0    | 0    | 0          | 0         | 0     | 0          | 0    | 0    |   |   |   |   |
| Reduced Vol:   | 346             | 0                        | 589  | 0                        | 0    | 0    | 0          | 15        | 260   | 395        | 4    | 0    |   |   |   |   |
| PCE Adj:   | 1.00            | 1.00                     | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |   |
| MLF Adj:   | 1.00            | 1.00                     | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 1.00  | 1.00       | 1.05 | 1.00 |   |   |   |   |
| Final Vol.:  | 346             | 0                        | 589  | 0                        | 0    | 0    | 0          | 15        | 260   | 395        | 4    | 0    |   |   |   |   |
| ----- ----- ----- -----                                |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Saturation Flow Module:                                |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Sat/Lane:  | 1900            | 1900                     | 1900 | 1900                     | 1900 | 1900 | 1900       | 1900      | 1900  | 1900       | 1900 | 1900 |   |   |   |   |
| Adjustment:  | 0.95            | 1.00                     | 0.85 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 0.85  | 0.95       | 1.00 | 1.00 |   |   |   |   |
| Lanes:   | 1.00            | 0.00                     | 1.00 | 0.00                     | 0.00 | 0.00 | 0.00       | 1.00      | 1.00  | 1.00       | 2.00 | 0.00 |   |   |   |   |
| Final Sat.:  | 1805            | 0                        | 1615 | 0                        | 0    | 0    | 0          | 1900      | 1615  | 1805       | 3800 | 0    |   |   |   |   |
| ----- ----- ----- -----                                |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Capacity Analysis Module:                              |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Vol/Sat:   | 0.19            | 0.00                     | 0.36 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.01      | 0.16  | 0.22       | 0.00 | 0.00 |   |   |   |   |
| Crit Moves:  | ****            |                          |      |                          |      |      |            |           |       | ****       |      |      |   |   |   |   |
| Green/Cycle:   | 0.31            | 0.00                     | 0.66 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.26      | 0.26  | 0.35       | 0.61 | 0.00 |   |   |   |   |
| Volume/Cap:  | 0.62            | 0.00                     | 0.55 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.03      | 0.62  | 0.62       | 0.00 | 0.00 |   |   |   |   |
| ----- ----- ----- -----                                |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Level Of Service Module:                               |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |
| Delay/Veh:   | 20.6            | 0.0                      | 6.3  | 0.0                      | 0.0  | 0.0  | 0.0        | 17.9      | 23.0  | 18.7       | 4.9  | 0.0  |   |   |   |   |
| User DelAdj:   | 1.00            | 1.00                     | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00      | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |   |
| AdjDel/Veh:  | 20.6            | 0.0                      | 6.3  | 0.0                      | 0.0  | 0.0  | 0.0        | 17.9      | 23.0  | 18.7       | 4.9  | 0.0  |   |   |   |   |
| Queue:   | 9               | 0                        | 9    | 0                        | 0    | 0    | 0          | 0         | 7     | 9          | 0    | 0    |   |   |   |   |
| *****  |                 |                          |      |                          |      |      |            |           |       |            |      |      |   |   |   |   |

|  |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
|--|--|--------------------------|------|--------------------------|-------------|------|------|------------|------|-------|------------|------|------|
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| FISCO/Port Vision 2000 EIS/EIR                           |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| Maximum Marine/Maximum Rail Alternative                  |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| PM Peak Hour   |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| Level Of Service Computation Report                      |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| 1994 HCM Operations Method (Future Volume Alternative)   |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| *****  |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| *****  |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| Cycle (sec):   |  | 100                      |      | Critical Vol./Cap. (X):  |             |      |      |            |      | 0.411 |            |      |      |
| Loss Time (sec):   |  | 10 (Y+R = 4 sec)         |      | Average Delay (sec/veh): |             |      |      |            |      | 18.8  |            |      |      |
| Optimal Cycle:   |  | 70                       |      | Level Of Service:        |             |      |      |            |      | C     |            |      |      |
| *****  |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| Approach:  |  | North Bound              |      |                          | South Bound |      |      | East Bound |      |       | West Bound |      |      |
| Movement:  |  | L                        | T    | R                        | L           | T    | R    | L          | T    | R     | L          | T    | R    |
|  |  | ----- ----- ----- -----  |      |                          |             |      |      |            |      |       |            |      |      |
| Control:   |  | Protected                |      |                          | Protected   |      |      | Protected  |      |       | Protected  |      |      |
| Rights:  |  | Include                  |      |                          | Include     |      |      | Include    |      |       | Include    |      |      |
| Min. Green:  |  | 10                       | 20   | 20                       | 10          | 20   | 20   | 10         | 20   | 20    | 10         | 20   | 20   |
| Lanes:   |  | 2                        | 0    | 0                        | 1           | 0    | 0    | 1          | 0    | 1     | 1          | 1    | 0    |
|  |  | ----- ----- ----- -----  |      |                          |             |      |      |            |      |       |            |      |      |
| Volume Module:   |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| Base Vol:  |  | 0                        | 23   | 0                        | 9           | 23   | 23   | 20         | 454  | 210   | 0          | 624  | 13   |
| Growth Adj:  |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| Initial Bse:   |  | 0                        | 23   | 0                        | 9           | 23   | 23   | 20         | 454  | 210   | 0          | 624  | 13   |
| Added Vol:   |  | 438                      | 0    | 76                       | 0           | 0    | 0    | 0          | 0    | 250   | 52         | 0    | 0    |
| PasserByVol:   |  | 0                        | 0    | 0                        | 0           | 0    | 0    | 0          | 0    | 0     | 0          | 0    | 0    |
| Initial Fut:   |  | 438                      | 23   | 76                       | 9           | 23   | 23   | 20         | 454  | 460   | 52         | 624  | 13   |
| User Adj:  |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| PHF Adj:   |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| PHF Volume:  |  | 438                      | 23   | 76                       | 9           | 23   | 23   | 20         | 454  | 460   | 52         | 624  | 13   |
| Reduct Vol:  |  | 0                        | 0    | 0                        | 0           | 0    | 0    | 0          | 0    | 0     | 0          | 0    | 0    |
| Reduced Vol:   |  | 438                      | 23   | 76                       | 9           | 23   | 23   | 20         | 454  | 460   | 52         | 624  | 13   |
| PCE Adj:   |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| MLF Adj:   |  | 1.03                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.10 | 1.10  | 1.00       | 1.05 | 1.05 |
| Final Vol.:  |  | 452                      | 23   | 76                       | 9           | 23   | 23   | 20         | 499  | 506   | 52         | 655  | 14   |
|  |  | ----- ----- ----- -----  |      |                          |             |      |      |            |      |       |            |      |      |
| Saturation Flow Module:                                  |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| Sat/Lane:  |  | 1900                     | 1900 | 1900                     | 1900        | 1900 | 1900 | 1900       | 1900 | 1900  | 1900       | 1900 | 1900 |
| Adjustment:  |  | 0.95                     | 0.88 | 0.88                     | 0.95        | 0.93 | 0.93 | 0.95       | 0.93 | 0.93  | 0.95       | 1.00 | 1.00 |
| Lanes:   |  | 2.00                     | 0.23 | 0.77                     | 1.00        | 0.50 | 0.50 | 1.00       | 1.49 | 1.51  | 1.00       | 1.96 | 0.04 |
| Final Sat.:  |  | 3610                     | 388  | 1284                     | 1805        | 884  | 884  | 1805       | 2632 | 2669  | 1805       | 3720 | 80   |
|  |  | ----- ----- ----- -----  |      |                          |             |      |      |            |      |       |            |      |      |
| Capacity Analysis Module:                                |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| Vol/Sat:   |  | 0.13                     | 0.06 | 0.06                     | 0.00        | 0.03 | 0.03 | 0.01       | 0.19 | 0.19  | 0.03       | 0.18 | 0.18 |
| Crit Moves:  |  | ****                     |      |                          | ****        |      |      | ****       |      |       | ****       |      |      |
| Green/Cycle:   |  | 0.24                     | 0.29 | 0.29                     | 0.15        | 0.20 | 0.20 | 0.15       | 0.36 | 0.36  | 0.10       | 0.31 | 0.31 |
| Volume/Cap:  |  | 0.52                     | 0.20 | 0.20                     | 0.03        | 0.13 | 0.13 | 0.07       | 0.52 | 0.52  | 0.29       | 0.57 | 0.57 |
|  |  | ----- ----- ----- -----  |      |                          |             |      |      |            |      |       |            |      |      |
| Level Of Service Module:                                 |  |                          |      |                          |             |      |      |            |      |       |            |      |      |
| Delay/Veh:   |  | 21.9                     | 17.2 | 17.2                     | 23.7        | 21.2 | 21.2 | 23.4       | 16.5 | 16.5  | 27.2       | 19.3 | 19.3 |
| User DelAdj:   |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| AdjDel/Veh:  |  | 21.9                     | 17.2 | 17.2                     | 23.7        | 21.2 | 21.2 | 23.4       | 16.5 | 16.5  | 27.2       | 19.3 | 19.3 |
| Queue:   |  | 11                       | 0    | 2                        | 0           | 1    | 1    | 0          | 11   | 11    | 1          | 16   | 0    |
| *****  |  |                          |      |                          |             |      |      |            |      |       |            |      |      |

Table J.7-4 (Continued)

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #14 Union St./ 5th St./ I-880 North Ramps

|                  |                  |                          |       |
|------------------|------------------|--------------------------|-------|
| Cycle (sec):     | 100              | Critical Vol./Cap. (X):  | 0.226 |
| Loss Time (sec): | 11 (Y+R = 4 sec) | Average Delay (sec/veh): | 16.8  |
| Optimal Cycle:   | 71               | Level Of Service:        | C     |

| Approach:   | North Bound |  |  |  | South Bound |  |  |  | East Bound  |  |  |  | West Bound  |  |  |  |
|-------------|-------------|--|--|--|-------------|--|--|--|-------------|--|--|--|-------------|--|--|--|
| Movement:   | L - T - R   |  |  |  | L - T - R   |  |  |  | L - T - R   |  |  |  | L - T - R   |  |  |  |
| Control:    | Protected   |  |  |  | Protected   |  |  |  | Split Phase |  |  |  | Split Phase |  |  |  |
| Rights:     | Include     |  |  |  | Include     |  |  |  | Include     |  |  |  | Include     |  |  |  |
| Min. Green: | 0 20 20     |  |  |  | 0 20 20     |  |  |  | 10 20 20    |  |  |  | 10 20 20    |  |  |  |
| Lanes:      | 0 0 1 1 1   |  |  |  | 0 0 1 1 0   |  |  |  | 0 1 0 1 0   |  |  |  | 1 0 1 1 0   |  |  |  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 194  | 281  | 0    | 144  | 30   | 31   | 97   | 18   | 32   | 31   | 34   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 194  | 281  | 0    | 144  | 30   | 31   | 97   | 18   | 32   | 31   | 34   |
| Added Vol:   | 0    | 0    | 158  | 0    | 0    | 0    | 0    | 0    | 0    | 246  | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 194  | 439  | 0    | 144  | 30   | 31   | 97   | 18   | 278  | 31   | 34   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 194  | 439  | 0    | 144  | 30   | 31   | 97   | 18   | 278  | 31   | 34   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 194  | 439  | 0    | 144  | 30   | 31   | 97   | 18   | 278  | 31   | 34   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.05 | 1.00 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 194  | 461  | 0    | 151  | 32   | 33   | 102  | 19   | 278  | 31   | 34   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.95 | 1.00 | 0.85 |
| Lanes:      | 0.00 | 1.00 | 2.00 | 0.00 | 1.65 | 0.35 | 0.43 | 1.32 | 0.25 | 1.00 | 1.00 | 1.00 |
| Final Sat.: | 0    | 1900 | 3230 | 0    | 3041 | 645  | 790  | 2442 | 455  | 1805 | 1900 | 1615 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.10 | 0.14 | 0.00 | 0.05 | 0.05 | 0.04 | 0.04 | 0.04 | 0.15 | 0.02 | 0.02 |
| Crit Moves:  |      |      | **** | **** |      |      |      | **** |      |      | **** |      |
| Green/Cycle: | 0.00 | 0.33 | 0.33 | 0.00 | 0.33 | 0.33 | 0.20 | 0.20 | 0.20 | 0.36 | 0.36 | 0.36 |
| Volume/Cap:  | 0.00 | 0.31 | 0.43 | 0.00 | 0.15 | 0.15 | 0.21 | 0.21 | 0.21 | 0.43 | 0.05 | 0.06 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 16.1 | 16.9 | 0.0  | 15.2 | 15.2 | 21.6 | 21.6 | 21.6 | 16.0 | 13.5 | 13.6 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 16.1 | 16.9 | 0.0  | 15.2 | 15.2 | 21.6 | 21.6 | 21.6 | 16.0 | 13.5 | 13.6 |
| Queue:       | 0    | 4    | 10   | 0    | 3    | 1    | 1    | 2    | 0    | 6    | 1    | 1    |



|   |                          |                          |      |             |      |      |            |      |       |            |           |      |   |
|---|--------------------------|--------------------------|------|-------------|------|------|------------|------|-------|------------|-----------|------|---|
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| FISCO/Port Vision 2000 EIS/EIR                          |                          |                          |      |             |      |      |            |      |       |            |           |      |   |
| Maximum Marine/Maximum Rail Alternative                 |                          |                          |      |             |      |      |            |      |       |            |           |      |   |
| PM Peak Hour  |                          |                          |      |             |      |      |            |      |       |            |           |      |   |
| Level Of Service Computation Report                     |                          |                          |      |             |      |      |            |      |       |            |           |      |   |
| 1994 HCM Operations Method (Future Volume Alternative)  |                          |                          |      |             |      |      |            |      |       |            |           |      |   |
| Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd. |                          |                          |      |             |      |      |            |      |       |            |           |      |   |
| Cycle (sec):  | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      | 0.397 |            |           |      |   |
| Loss Time (sec):  | 10 (Y+R = 4 sec)         | Average Delay (sec/veh): |      |             |      |      |            |      | 18.2  |            |           |      |   |
| Optimal Cycle:  | 70                       | Level Of Service:        |      |             |      |      |            |      | C     |            |           |      |   |
| Approach:   | North Bound              |                          |      | South Bound |      |      | East Bound |      |       | West Bound |           |      |   |
| Movement:   | L                        | T                        | R    | L           | T    | R    | L          | T    | R     | L          | T         | R    |   |
| Control:  | Protected                |                          |      | Protected   |      |      | Protected  |      |       | Protected  |           |      |   |
| Rights:   | Include                  |                          |      | Ovl         |      |      | Include    |      |       | Include    |           |      |   |
| Min. Green:   | 10                       | 20                       | 20   | 10          | 20   | 20   | 10         | 20   | 20    | 0          | 20        | 20   |   |
| Lanes:  | 2                        | 0                        | 0    | 1           | 0    | 0    | 0          | 2    | 1     | 0          | 2         | 0    | 0 |
| Volume Module:  |                          |                          |      |             |      |      |            |      |       |            |           |      |   |
| Base Vol:   | 0                        | 197                      | 3    | 2           | 0    | 205  | 0          | 108  | 0     | 0          | 53        | 1    |   |
| Growth Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |   |
| Initial Bse:  | 0                        | 197                      | 3    | 2           | 0    | 205  | 0          | 108  | 0     | 0          | 53        | 1    |   |
| Added Vol:  | 485                      | 0                        | 0    | 0           | 0    | 268  | 365        | 18   | 0     | 0          | 5         | 0    |   |
| PasserByVol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0     | 0          | 0         | 0    |   |
| Initial Fut:  | 485                      | 197                      | 3    | 2           | 0    | 473  | 365        | 126  | 0     | 0          | 58        | 1    |   |
| User Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |   |
| PHF Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |   |
| PHF Volume:   | 485                      | 197                      | 3    | 2           | 0    | 473  | 365        | 126  | 0     | 0          | 58        | 1    |   |
| Reduct Vol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0     | 0          | 0         | 0    |   |
| Reduced Vol:  | 485                      | 197                      | 3    | 2           | 0    | 473  | 365        | 126  | 0     | 0          | 58        | 1    |   |
| PCE Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |   |
| MLF Adj:  | 1.03                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.13 | 1.00       | 1.05 | 1.00  | 1.00       | 1.05      | 1.05 |   |
| Final Vol.:   | 500                      | 197                      | 3    | 2           | 0    | 535  | 365        | 133  | 0     | 0          | 61        | 1    |   |
| Saturation Flow Module:                                 |                          |                          |      |             |      |      |            |      |       |            |           |      |   |
| Sat/Lane:   | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900  | 1900       | 1900      | 1900 |   |
| Adjustment:   | 0.95                     | 1.00                     | 1.00 | 0.95        | 1.00 | 0.85 | 0.95       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |   |
| Lanes:  | 2.00                     | 0.98                     | 0.02 | 1.00        | 0.00 | 2.00 | 1.00       | 2.00 | 0.00  | 0.00       | 1.97      | 0.03 |   |
| Final Sat.:   | 3610                     | 1872                     | 29   | 1805        | 0    | 3230 | 1805       | 3800 | 0     | 0          | 3739      | 61   |   |
| Capacity Analysis Module:                               |                          |                          |      |             |      |      |            |      |       |            |           |      |   |
| Vol/Sat:  | 0.14                     | 0.11                     | 0.11 | 0.00        | 0.00 | 0.17 | 0.20       | 0.04 | 0.00  | 0.00       | 0.02      | 0.02 |   |
| Crit Moves:   | ****                     |                          |      | ****        |      |      | ****       |      |       | ****       |           |      |   |
| Green/Cycle:  | 0.20                     | 0.27                     | 0.27 | 0.13        | 0.00 | 0.50 | 0.30       | 0.50 | 0.00  | 0.00       | 0.20      | 0.20 |   |
| Volume/Cap:   | 0.68                     | 0.39                     | 0.39 | 0.01        | 0.00 | 0.33 | 0.68       | 0.07 | 0.00  | 0.00       | 0.08      | 0.08 |   |
| Level Of Service Module:                                |                          |                          |      |             |      |      |            |      |       |            |           |      |   |
| Delay/Veh:  | 25.6                     | 19.6                     | 19.6 | 24.2        | 0.0  | 9.9  | 22.5       | 8.5  | 0.0   | 0.0        | 21.0      | 21.0 |   |
| User DelAdj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |   |
| AdjDel/Veh:   | 25.6                     | 19.6                     | 19.6 | 24.2        | 0.0  | 9.9  | 22.5       | 8.5  | 0.0   | 0.0        | 21.0      | 21.0 |   |
| Queue:  | 13                       | 5                        | 0    | 0           | 0    | 9    | 9          | 2    | 0     | 0          | 1         | 0    |   |

|  |                          |      |      |                          |      |      |            |      |      |            |           |      |
|--|--------------------------|------|------|--------------------------|------|------|------------|------|------|------------|-----------|------|
| A-PM.CMD   | Tue Nov 5, 1996 10:49:51 |      |      |                          |      |      |            |      |      |            | Page 17-1 |      |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |      |      |                          |      |      |            |      |      |            |           |      |
| Maximum Marine/Maximum Rail Alternative                |                          |      |      |                          |      |      |            |      |      |            |           |      |
| PM Peak Hour   |                          |      |      |                          |      |      |            |      |      |            |           |      |
| Level Of Service Computation Report                    |                          |      |      |                          |      |      |            |      |      |            |           |      |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |      |      |                          |      |      |            |      |      |            |           |      |
| Intersection #16 7th St./ I-880 SB Ramps               |                          |      |      |                          |      |      |            |      |      |            |           |      |
| Cycle (sec):   | 100                      |      |      | Critical Vol./Cap. (X):  |      |      |            |      |      | 0.557      |           |      |
| Loss Time (sec):                                       | 5 (Y+R = 4 sec)          |      |      | Average Delay (sec/veh): |      |      |            |      |      | 5.7        |           |      |
| Optimal Cycle:   | 35                       |      |      | Level Of Service:        |      |      |            |      |      | B          |           |      |
| Approach:  | North Bound              |      |      | South Bound              |      |      | East Bound |      |      | West Bound |           |      |
| Movement:  | L                        | T    | R    | L                        | T    | R    | L          | T    | R    | L          | T         | R    |
| Control:   | Protected                |      |      | Protected                |      |      | Protected  |      |      | Protected  |           |      |
| Rights:  | Include                  |      |      | Include                  |      |      | Include    |      |      | Include    |           |      |
| Min. Green:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 20   | 20   | 10         | 20        | 20   |
| Lanes:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 2    | 0    | 1          | 2         | 0    |
| Volume Module:   |                          |      |      |                          |      |      |            |      |      |            |           |      |
| Base Vol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 7    | 378        | 0         | 0    |
| Growth Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |
| Initial Bse:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 7    | 378        | 0         | 0    |
| Added Vol:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 383  | 674  | 0          | 758       | 0    |
| PasserByVol:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |
| Initial Fut:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 383  | 681  | 378        | 758       | 0    |
| User Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |
| PHF Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |
| PHF Volume:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 383  | 681  | 378        | 758       | 0    |
| Reduct Vol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |
| Reduced Vol:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 383  | 681  | 378        | 758       | 0    |
| PCE Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |
| MLF Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.05 | 1.00 | 1.03       | 1.05      | 1.00 |
| Final Vol.:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 402  | 681  | 389        | 796       | 0    |
| Saturation Flow Module:                                |                          |      |      |                          |      |      |            |      |      |            |           |      |
| Sat/Lane:  | 1900                     | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900      | 1900 |
| Adjustment:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 0.85 | 0.95       | 1.00      | 1.00 |
| Lanes:   | 0.00                     | 0.00 | 0.00 | 0.00                     | 0.00 | 0.00 | 0.00       | 2.00 | 1.00 | 2.00       | 2.00      | 0.00 |
| Final Sat.:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 3800 | 1615 | 3610       | 3800      | 0    |
| Capacity Analysis Module:                              |                          |      |      |                          |      |      |            |      |      |            |           |      |
| Vol/Sat:   | 0.00                     | 0.00 | 0.00 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.11 | 0.42 | 0.11       | 0.21      | 0.00 |
| Crit Moves:  |                          |      |      |                          |      |      |            |      | **** | ****       |           |      |
| Green/Cycle:   | 0.00                     | 0.00 | 0.00 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.76 | 0.76 | 0.19       | 0.95      | 0.00 |
| Volume/Cap:  | 0.00                     | 0.00 | 0.00 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.14 | 0.56 | 0.56       | 0.22      | 0.00 |
| Level Of Service Module:                               |                          |      |      |                          |      |      |            |      |      |            |           |      |
| Delay/Veh:   | 0.0                      | 0.0  | 0.0  | 0.0                      | 0.0  | 0.0  | 0.0        | 2.1  | 3.7  | 24.3       | 0.1       | 0.0  |
| User DelAdj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |
| AdjDel/Veh:  | 0.0                      | 0.0  | 0.0  | 0.0                      | 0.0  | 0.0  | 0.0        | 2.1  | 3.7  | 24.3       | 0.1       | 0.0  |
| Queue:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 3    | 8    | 10         | 1         | 0    |



Table J.7-4 (Continued)

|  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
|--|--|--|--|--------------------------|--|--|--|--|--|--|--|--|--|--|--|-----------|--|--|--|
| A-PM.CMD   |  |  |  | Tue Nov 5, 1996 10:49:51 |  |  |  |  |  |  |  |  |  |  |  | Page 18-1 |  |  |  |
| FISCO/Port Vision 2000 EIS/EIR   |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Maximum Marine/Maximum Rail Alternative                                      |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| PM Peak Hour   |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Level Of Service Computation Report  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| 1994 HCM Unsignalized Method (Future Volume Alternative)                     |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Intersection #17 14th St./ I-880 Frontage Rd.                                |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Average Delay (sec/veh): 2.1 Worst Case Level Of Service: C                  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Approach: North Bound South Bound East Bound West Bound                      |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Movement: L - T - R L - T - R L - T - R L - T - R                            |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Control: Uncontrolled Uncontrolled Stop Sign Stop Sign                       |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Rights: Include Include Include Include                                      |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 1 0 0 0 1                                 |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Volume Module:   |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Base Vol: 0 62 130 4 0 0 0 0 0 0 115 0 7                                     |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Initial Bse: 0 62 130 4 0 0 0 0 0 0 115 0 7                                  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Added Vol: 0 365 0 0 268 0 0 0 0 0 0 0 0                                     |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0                                       |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Initial Fut: 0 427 130 4 268 0 0 0 0 0 115 0 7                               |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00   |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00    |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| PHF Volume: 0 427 130 4 268 0 0 0 0 0 115 0 7                                |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Final Vol.: 0 427 130 4 268 0 0 0 0 0 115 0 7                                |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Adjusted Volume Module:  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Grade: 0% 0% 0% 0%   |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| % Cycle/Cars: xxxx xxxx xxxx xxxx  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| % Truck/Comb: xxxx xxxx xxxx xxxx  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| PCE Adj: 1.10 1.00 1.00 1.10 1.00 1.00 1.10 1.10 1.10 1.10 1.10 1.10 1.10    |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Cycl/Car PCE: xxxx xxxx xxxx xxxx  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Trck/Cmb PCE: xxxx xxxx xxxx xxxx  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Adj Vol.: 0 427 130 4 268 0 0 0 0 0 127 0 8                                  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Critical Gap Module:   |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| MoveUp Time:xxxxx xxxx xxxxx 2.1 xxxx xxxxx xxxxx xxxx xxxxx 3.4 xxxx 2.6    |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Critical Gp:xxxxx xxxx xxxxx 5.5 xxxx xxxxx xxxxx xxxx xxxxx 7.0 xxxx 5.5    |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Capacity Module:   |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Cnflct Vol: xxxx xxxx xxxxx 557 xxxx xxxxx xxxx xxxx xxxxx 764 xxxx 278      |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Potent Cap.: xxxx xxxx xxxxx 861 xxxx xxxxx xxxx xxxx xxxxx 344 xxxx 1001    |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Adj Cap: xxxx xxxx xxxxx 1.00 xxxx xxxxx xxxx xxxx xxxxx 0.99 xxxx 1.00      |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Move Cap.: xxxx xxxx xxxxx 861 xxxx xxxxx xxxx xxxx xxxxx 342 xxxx 1001      |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Level Of Service Module:   |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Stopped Del:xxxxx xxxx xxxxx 4.2 xxxx xxxxx xxxxx xxxx xxxxx 15.8 xxxx 3.6   |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| LOS by Move: * * * A * * * C * A   |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT            |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx         |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| Shared LOS: * * * * * * * *  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |
| ApproachDel: 0.0 0.1 0.0 15.1  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |           |  |  |  |

Table J.7-5

|  |                  |                          |                |         |          |          |           |             |            |
|--|------------------|--------------------------|----------------|---------|----------|----------|-----------|-------------|------------|
| B-AM.CMD   |                  | Tue Nov 5, 1996 13:06:45 |                |         |          |          | Page 1-1  |             |            |
| FISCO/Port Vision 2000 EIS/EIR   |                  |                          |                |         |          |          |           |             |            |
| Minimum Marine/Minimum Rail Alternative                                      |                  |                          |                |         |          |          |           |             |            |
| AM Peak Hour   |                  |                          |                |         |          |          |           |             |            |
| Trip Generation Report   |                  |                          |                |         |          |          |           |             |            |
| Forecast for AM Peak Hour  |                  |                          |                |         |          |          |           |             |            |
| Zone #   | Subzone          | Amount                   | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
| 1  | New Harbor       | 391.00                   | Employees      | 0.26    | 0.05     | 102      | 20        | 122         | 2.3        |
|  | Zone 1 Subtotal  |                          |                |         |          | 102      | 20        | 122         | 2.3        |
| 2  | Hrbr Trns Ct     | 400.00                   | Employees      | 0.28    | 0.05     | 112      | 20        | 132         | 2.5        |
|  | Zone 2 Subtotal  |                          |                |         |          | 112      | 20        | 132         | 2.5        |
| 3  | J.I.T.           | 167.00                   | Employees      | 0.40    | 0.09     | 67       | 15        | 82          | 1.6        |
|  | Zone 3 Subtotal  |                          |                |         |          | 67       | 15        | 82          | 1.6        |
| 4  | SP Rail Term     | 150.00                   | Employees      | 0.40    | 0.09     | 60       | 13        | 73          | 1.4        |
|  | Zone 4 Subtotal  |                          |                |         |          | 60       | 13        | 73          | 1.4        |
| 5  | UP Rail Term     | 67.00                    | Employees      | 0.40    | 0.09     | 27       | 6         | 33          | 0.6        |
|  | Zone 5 Subtotal  |                          |                |         |          | 27       | 6         | 33          | 0.6        |
| 6  | Middle Harbr     | 516.00                   | Employees      | 0.26    | 0.05     | 134      | 26        | 160         | 3.0        |
|  | Zone 6 Subtotal  |                          |                |         |          | 134      | 26        | 160         | 3.0        |
| 7  | 7th St Harbr     | 613.00                   | Employees      | 0.26    | 0.05     | 159      | 31        | 190         | 3.6        |
|  | Zone 7 Subtotal  |                          |                |         |          | 159      | 31        | 190         | 3.6        |
| 8  | Outer Harbor     | 792.00                   | Employees      | 0.26    | 0.05     | 206      | 40        | 246         | 4.7        |
|  | Zone 8 Subtotal  |                          |                |         |          | 206      | 40        | 246         | 4.7        |
| 10   | New Park         | 1.00                     | Total Trips    | 24.00   | 16.00    | 24       | 16        | 40          | 0.8        |
|  | Zone 10 Subtotal |                          |                |         |          | 24       | 16        | 40          | 0.8        |
| 11   | New Harbor       | 1.00                     | Trucks Inter   | 46.00   | 49.00    | 46       | 49        | 95          | 1.8        |
|  | Zone 11 Subtotal |                          |                |         |          | 46       | 49        | 95          | 1.8        |
| 16   | Middle Harbr     | 1.00                     | Trucks Inter   | 60.00   | 64.00    | 60       | 64        | 124         | 2.3        |
|  | Zone 16 Subtotal |                          |                |         |          | 60       | 64        | 124         | 2.3        |
| 17   | 7th St Harbr     | 1.00                     | Trucks Inter   | 72.00   | 77.00    | 72       | 77        | 149         | 2.8        |
|  | Zone 17 Subtotal |                          |                |         |          | 72       | 77        | 149         | 2.8        |
| 18   | Outer Harbor     | 1.00                     | Trucks Inter   | 93.00   | 99.00    | 93       | 99        | 192         | 3.6        |
|  | Zone 18 Subtotal |                          |                |         |          | 93       | 99        | 192         | 3.6        |
| 21   | New Harbor       | 1.00                     | Truck External | 226.00  | 241.00   | 226      | 241       | 467         | 8.8        |
|  | Zone 21 Subtotal |                          |                |         |          | 226      | 241       | 467         | 8.8        |
| 23   | J.I.T.           | 1.00                     | Truck External | 197.00  | 210.00   | 197      | 210       | 407         | 7.7        |
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|   |         |        |       |                          |      |      |       |          |       |       |    |
|---|---------|--------|-------|--------------------------|------|------|-------|----------|-------|-------|----|
| B-AM.CMD                                |         |        |       | Tue Nov 5, 1996 13:06:45 |      |      |       | Page 1-2 |       |       |    |
| FISCO/Port Vision 2000 EIS/EIR          |         |        |       |                          |      |      |       |          |       |       |    |
| Minimum Marine/Minimum Rail Alternative |         |        |       |                          |      |      |       |          |       |       |    |
| AM Peak Hour                            |         |        |       |                          |      |      |       |          |       |       |    |
| Zone                                    |         |        |       |                          | Rate | Rate | Trips | Trips    | Total | %     | Of |
| #                                       | Subzone | Amount | Units |                          | In   | Out  | In    | Out      | Trips | Total |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
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|   |         |        |       |                          |      |      |       |          |       |       |    |
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|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
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|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
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|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
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|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
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|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
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|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
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|   |         |        |       |                          |      |      |       |          |       |       |    |
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|   |         |        |       |                          |      |      |       |          |       |       |    |
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|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
|   |         |        |       |                          |      |      |       |          |       |       |    |
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|   |         |        |       |                          |      |      |       |          |       |       |    |
|   | </      |        |       |                          |      |      |       |          |       |       |    |

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Table J.7-5 (Continued)

B-AM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
AM Peak Hour

## Trip Distribution Report

## Percent Of Trips Existing

| Zone | To Gates |      |      |      |      |      |      |      |       |
|------|----------|------|------|------|------|------|------|------|-------|
|      | 3        | 4    | 5    | 11   | 12   | 13   | 14   | 15   | 16    |
| 1    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 2    | 0.0      | 0.0  | 0.0  | 10.0 | 30.0 | 7.0  | 19.0 | 19.0 | 15.0  |
| 3    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 4    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 5    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 6    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 7    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 8    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 10   | 0.0      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 100.0 |
| 11   | 45.7     | 40.6 | 13.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 16   | 45.7     | 40.6 | 13.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 17   | 45.7     | 40.6 | 13.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 18   | 45.7     | 40.6 | 13.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 21   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 23   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 24   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 25   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 26   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 27   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 28   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |

B-AM.CMD

Tue Nov 5, 1996 13:06:45

Page 3-1

FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
AM Peak Hour

## Turning Movement Report

## AM Peak Hour

| Volume Type                                 | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total Volume |
|---|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------------|
|   | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |              |
| #3 Maritime St./ Burma St.                  |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 5          | 78   | 0     | 0          | 287  | 0     | 0         | 0    | 5     | 0         | 0    | 0     | 375          |
| Added                                       | 0          | 282  | 0     | 0          | 391  | 224   | 147       | 0    | 0     | 0         | 0    | 0     | 1043         |
| Total                                       | 5          | 360  | 0     | 0          | 678  | 224   | 147       | 0    | 5     | 0         | 0    | 0     | 1418         |
| #4 Maritime St./ 14th St.                   |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 91   | 39    | 103        | 261  | 0     | 0         | 0    | 0     | 22        | 0    | 87    | 603          |
| Added                                       | 392        | 167  | 0     | 0          | 251  | 140   | 115       | 0    | 364   | 0         | 0    | 0     | 1429         |
| Total                                       | 392        | 258  | 39    | 103        | 512  | 140   | 115       | 0    | 364   | 22        | 0    | 87    | 2032         |
| #5 Maritime St./ 7th St. Extension          |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 159        | 0    | 0     | 0          | 0    | 334   | 69        | 0    | 37    | 0         | 0    | 0     | 599          |
| Added                                       | 310        | 489  | 0     | 0          | 529  | 86    | 70        | 0    | 279   | 0         | 0    | 0     | 1764         |
| Total                                       | 469        | 489  | 0     | 0          | 529  | 420   | 139       | 0    | 316   | 0         | 0    | 0     | 2363         |
| #6 7th St./ 7th St. Extension               |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 15         | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 26        | 0    | 54    | 95           |
| Added                                       | 58         | 138  | 49    | 463        | 160  | 186   | 139       | 422  | 62    | 55        | 499  | 523   | 2753         |
| Total                                       | 73         | 138  | 49    | 463        | 160  | 186   | 139       | 422  | 62    | 81        | 499  | 577   | 2848         |
| #7 Middle Harbor Rd. / Gate 2               |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 53         | 0    | 45    | 0          | 0    | 0     | 0         | 0    | 39    | 208       | 338  | 0     | 683          |
| Added                                       | 1          | 0    | 207   | 0          | 0    | 0     | 0         | 202  | 8     | 300       | 271  | 0     | 990          |
| PassBy                                      | 106        | 0    | 159   | 0          | 0    | 0     | 0         | 0    | 71    | 106       | 0    | 0     | 442          |
| Total                                       | 160        | 0    | 411   | 0          | 0    | 0     | 0         | 202  | 118   | 614       | 609  | 0     | 2115         |
| #8 Adeline St./ 3rd St.                     |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 8          | 0    | 31    | 26         | 0    | 26    | 8         | 6    | 29    | 50        | 59   | 56    | 299          |
| Added                                       | 0          | 700  | 0     | 0          | 966  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1665         |
| Total                                       | 8          | 700  | 31    | 26         | 966  | 26    | 8         | 6    | 29    | 50        | 59   | 56    | 1964         |
| #9 7th/New Middle Harbor                    |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0            |
| Added                                       | 0          | 0    | 122   | 0          | 0    | 0     | 0         | 501  | 0     | 133       | 609  | 0     | 1365         |
| Total                                       | 0          | 0    | 122   | 0          | 0    | 0     | 0         | 501  | 0     | 133       | 609  | 0     | 1365         |
| #10   |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0            |
| Added                                       | 122        | 0    | 0     | 0          | 0    | 0     | 0         | 210  | 133   | 45        | 227  | 0     | 738          |
| Total                                       | 122        | 0    | 0     | 0          | 0    | 0     | 0         | 210  | 133   | 45        | 227  | 0     | 738          |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 33   | 0     | 16         | 28   | 47    | 48        | 394  | 438   | 0         | 300  | 9     | 1313         |
| Added                                       | 310        | 0    | 119   | 0          | 0    | 0     | 0         | 0    | 478   | 136       | 0    | 0     | 1043         |
| Total                                       | 310        | 33   | 119   | 16         | 28   | 47    | 48        | 394  | 916   | 136       | 300  | 9     | 2356         |

## Table J.7-5 (Continued)

|  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
|--|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|----------|--------|
| B-AM.CMD                                   |            | Tue Nov 5, 1996 13:06:45 |       |            |      |       |           |      |       |           |      | Page 3-2 |        |
| FISCO/Port Vision 2000 EIS/EIR             |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Minimum Marine/Minimum Rail Alternative    |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| AM Peak Hour                               |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Volume                                     | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |          | Total  |
| Type                                       | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right    | Volume |
| #13 Adeline St./ 5th St./ I-880 SB Ramp    |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                       | 0          | 0                        | 0     | 72         | 109  | 165   | 256       | 51   | 0     | 0         | 169  | 364      | 1186   |
| Added                                      | 125        | 123                      | 451   | 0          | 189  | 0     | 0         | 0    | 207   | 569       | 0    | 0        | 1665   |
| Total                                      | 125        | 123                      | 451   | 72         | 298  | 165   | 256       | 51   | 207   | 569       | 169  | 364      | 2851   |
| #14 Union St./ 5th St./ I-880 North Ramps  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                       | 0          | 175                      | 45    | 0          | 154  | 31    | 24        | 43   | 13    | 205       | 31   | 115      | 836    |
| Added                                      | 0          | 0                        | 207   | 0          | 0    | 0     | 0         | 0    | 0     | 125       | 0    | 0        | 333    |
| Total                                      | 0          | 175                      | 252   | 0          | 154  | 31    | 24        | 43   | 13    | 330       | 31   | 115      | 1169   |
| #15 7th St./ I-880 NB Ramps / Frontage Rd. |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                       | 0          | 548                      | 21    | 17         | 0    | 94    | 0         | 16   | 0     | 0         | 62   | 1        | 759    |
| Added                                      | 679        | 0                        | 0     | 0          | 0    | 379   | 332       | 13   | 0     | 0         | 19   | 0        | 1422   |
| Total                                      | 679        | 548                      | 21    | 17         | 0    | 473   | 332       | 29   | 0     | 0         | 81   | 1        | 2181   |
| #16 7th St./ I-880 SB Ramps                |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                       | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 65        | 0    | 0        | 65     |
| Added                                      | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 345  | 589   | 0         | 1077 | 0        | 2011   |
| Total                                      | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 345  | 589   | 65        | 1077 | 0        | 2076   |
| #17 14th St./ I-880 Frontage Rd.           |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                       | 0          | 0                        | 89    | 30         | 0    | 0     | 0         | 0    | 0     | 140       | 0    | 6        | 265    |
| Added                                      | 0          | 332                      | 0     | 0          | 379  | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 711    |
| Total                                      | 0          | 332                      | 89    | 30         | 379  | 0     | 0         | 0    | 0     | 140       | 0    | 6        | 976    |
| #18 W.Grand Ave./ I-880 Frontage Rd.       |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                       | 9          | 0                        | 0     | 678        | 48   | 6     | 65        | 234  | 12    | 0         | 152  | 449      | 1653   |
| Added                                      | 0          | 212                      | 120   | 0          | 239  | 0     | 0         | 119  | 0     | 140       | 136  | 0        | 966    |
| Total                                      | 9          | 212                      | 120   | 678        | 287  | 6     | 65        | 353  | 12    | 140       | 288  | 449      | 2619   |
| #134                                       |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                       | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 0      |
| Added                                      | 0          | 0                        | 124   | 0          | 0    | 0     | 0         | 225  | 0     | 132       | 264  | 0        | 745    |
| Total                                      | 0          | 0                        | 124   | 0          | 0    | 0     | 0         | 225  | 0     | 132       | 264  | 0        | 745    |
| #138                                       |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                       | 0          | -156                     | 0     | 0          | -173 | -26   | -24       | 0    | 0     | 0         | 0    | 0        | -379   |
| Added                                      | 0          | 69                       | 0     | 0          | 86   | 40    | 37        | 0    | 0     | 0         | 0    | 0        | 232    |
| Total                                      | 0          | -87                      | 0     | 0          | -87  | 14    | 13        | 0    | 0     | 0         | 0    | 0        | -147   |
| #158                                       |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                       | 0          | -180                     | -129  | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -309   |
| Added                                      | 0          | 205                      | 139   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 344    |
| Total                                      | 0          | 25                       | 10    | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 35     |

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|---|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR<br>Minimum Marine/Minimum Rail Alternative<br>AM Peak Hour |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Volume  | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |          | Total  |
| Type  | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right    | Volume |
| #159  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | -180       | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -178 | 0        | -358   |
| Added   | 205        | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 195  | 0        | 400    |
| Total   | 25         | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 17   | 0        | 42     |
| #160  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -178      | -180 | 0        | -358   |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 195       | 205  | 0        | 400    |
| Total   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 17        | 25   | 0        | 42     |
| #161  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | -178 | 0     | 0         | 0    | -286  | 0         | 0    | 0        | -464   |
| Added   | 0          | 0                        | 0     | 0          | 195  | 0     | 0         | 0    | 340   | 0         | 0    | 0        | 536    |
| Total   | 0          | 0                        | 0     | 0          | 17   | 0     | 0         | 0    | 54    | 0         | 0    | 0        | 72     |
| #165  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | -227 | 0     | 0         | 0    | -495  | 0         | 0    | 0        | -722   |
| Added   | 0          | 0                        | 0     | 0          | 207  | 0     | 0         | 0    | 589   | 0         | 0    | 0        | 797    |
| Total   | 0          | 0                        | 0     | 0          | -20  | 0     | 0         | 0    | 94    | 0         | 0    | 0        | 75     |
| #170  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -153                     | -564  | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -717   |
| Added   | 0          | 125                      | 679   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 804    |
| Total   | 0          | -28                      | 115   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 87     |
| #177  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | -351 | 0     | 0         | -129 | 0     | 0         | 0    | 0        | -480   |
| Added   | 0          | 0                        | 0     | 0          | 389  | 0     | 0         | 139  | 0     | 0         | 0    | 0        | 528    |
| Total   | 0          | 0                        | 0     | 0          | 38   | 0     | 0         | 10   | 0     | 0         | 0    | 0        | 48     |
| #178  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -266                     | 0     | 0          | 0    | 0     | -104      | -25  | 0     | 0         | 0    | 0        | -395   |
| Added   | 0          | 302                      | 0     | 0          | 0    | 0     | 104       | 35   | 0     | 0         | 0    | 0        | 442    |
| Total   | 0          | 36                       | 0     | 0          | 0    | 0     | 0         | 10   | 0     | 0         | 0    | 0        | 47     |
| #182  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -370                     | 0     | 0          | 0    | -475  | 0         | 0    | 0     | 0         | 0    | 0        | -845   |
| Added   | 0          | 407                      | 0     | 0          | 0    | 515   | 0         | 0    | 0     | 0         | 0    | 0        | 922    |
| Total   | 0          | 37                       | 0     | 0          | 0    | 40    | 0         | 0    | 0     | 0         | 0    | 0        | 77     |
| #201  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | -932 | 0     | 0         | 0    | 0        | -932   |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 1040 | 0     | 0         | 0    | 0        | 1040   |
| Total   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 108  | 0     | 0         | 0    | 0        | 108    |



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| Volume<br>Type | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total<br>Volume |
|----------------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|-----------------|
|                | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |                 |
| #204           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | -352       | -580 | 0     | 0         | 0    | 0     | 0         | 0    | 0     | -932            |
| Added          | 0          | 0    | 0     | 391        | 649  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1040            |
| Total          | 0          | 0    | 0     | 39         | 69   | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 108             |
| #207           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | -714 | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | -396  | -1110           |
| Added          | 0          | 813  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 435   | 1248            |
| Total          | 0          | 99   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 39    | 138             |
| #214           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -546      | -564 | 0     | -1110           |
| Added          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 569       | 679  | 0     | 1248            |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 23        | 115  | 0     | 138             |
| #217           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | -45  | 0     | 0         | -25  | 0     | 0         | 0    | 0     | -70             |
| Added          | 0          | 0    | 0     | 0          | 38   | 0     | 0         | 35   | 0     | 0         | 0    | 0     | 73              |
| Total          | 0          | 0    | 0     | 0          | -7   | 0     | 0         | 10   | 0     | 0         | 0    | 0     | 3               |
| #218           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | -21  | 0     | 0          | 0    | 0     | -21       | -4   | 0     | 0         | 0    | 0     | -46             |
| Added          | 0          | 16   | 0     | 0          | 0    | 0     | 31        | 4    | 0     | 0         | 0    | 0     | 51              |
| Total          | 0          | -5   | 0     | 0          | 0    | 0     | 10        | 0    | 0     | 0         | 0    | 0     | 5               |
| #219           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | -43  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -20  | 0     | -63             |
| Added          | 0          | 47   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 23   | 0     | 70              |
| Total          | 0          | 4    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 3    | 0     | 7               |
| #220           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | -45  | -34   | 0         | 0    | 0     | 0         | -20  | 0     | -99             |
| Added          | 0          | 0    | 0     | 0          | 38   | 46    | 0         | 0    | 0     | 0         | 23   | 0     | 107             |
| Total          | 0          | 0    | 0     | 0          | -7   | 12    | 0         | 0    | 0     | 0         | 3    | 0     | 8               |
| #225           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -396 | -20   | -416            |
| Added          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 435  | 23    | 458             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 39   | 3     | 42              |
| #226           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | -4         | 0    | 0     | 0         | -352 | 0     | 0         | 0    | 0     | -356            |
| Added          | 0          | 0    | 0     | 4          | 0    | 0     | 0         | 391  | 0     | 0         | 0    | 0     | 395             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 39   | 0     | 0         | 0    | 0     | 39              |

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Minimum Marine/Minimum Rail Alternative  
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| Volume<br>Type | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total<br>Volume |
|----------------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|-----------------|
|                | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |                 |
| #244           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | -288  | -312      | -47  | 0     | 0         | -45  | 0     | -692            |
| Added          | 0          | 0    | 0     | 0          | 0    | 193   | 235       | 117  | 0     | 0         | 110  | 0     | 655             |
| Total          | 0          | 0    | 0     | 0          | 0    | -95   | -77       | 70   | 0     | 0         | 65   | 0     | -37             |

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Minimum Marine/Minimum Rail Alternative

AM Peak Hour

Link Volume Report

AM Peak Hour

| Volume Type                                 | NB Link |      |       | SB Link |     |       | EB Link |     |       | WB Link |     |       | Total Volume |
|---|---------|------|-------|---------|-----|-------|---------|-----|-------|---------|-----|-------|--------------|
|   | In      | Out  | Total | In      | Out | Total | In      | Out | Total | In      | Out | Total |              |
| #3 Maritime St./ Burma St.                  |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base  | 83      | 292  | 375   | 287     | 78  | 365   | 5       | 5   | 10    | 0       | 0   | 0     | 750          |
| Added                                       | 282     | 391  | 672   | 614     | 429 | 1043  | 147     | 224 | 371   | 0       | 0   | 0     | 2086         |
| Total                                       | 365     | 683  | 1047  | 901     | 507 | 1408  | 152     | 229 | 381   | 0       | 0   | 0     | 2836         |
| #4 Maritime St./ 14th St.                   |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base  | 130     | 283  | 413   | 364     | 178 | 542   | 0       | 0   | 0     | 109     | 142 | 251   | 1206         |
| Added                                       | 559     | 615  | 1174  | 391     | 282 | 672   | 479     | 532 | 1011  | 0       | 0   | 0     | 2858         |
| Total                                       | 689     | 898  | 1587  | 755     | 460 | 1214  | 479     | 532 | 1011  | 109     | 142 | 251   | 4064         |
| #5 Maritime St./ 7th St. Extension          |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base  | 159     | 37   | 196   | 334     | 69  | 403   | 106     | 493 | 599   | 0       | 0   | 0     | 1198         |
| Added                                       | 800     | 808  | 1608  | 615     | 559 | 1174  | 349     | 396 | 745   | 0       | 0   | 0     | 3528         |
| Total                                       | 959     | 845  | 1804  | 949     | 628 | 1577  | 455     | 889 | 1344  | 0       | 0   | 0     | 4726         |
| #6 7th St./ 7th St. Extension               |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base  | 15      | 26   | 41    | 0       | 54  | 54    | 0       | 15  | 15    | 80      | 0   | 80    | 190          |
| Added                                       | 245     | 277  | 521   | 808     | 800 | 1608  | 623     | 742 | 1365  | 1077    | 934 | 2011  | 5505         |
| Total                                       | 260     | 303  | 562   | 808     | 854 | 1662  | 623     | 757 | 1380  | 1157    | 934 | 2091  | 5695         |
| #7 Middle Harbor Rd. / Gate 2               |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base  | 98      | 247  | 345   | 0       | 0   | 0     | 39      | 391 | 430   | 546     | 45  | 591   | 1366         |
| Added                                       | 208     | 308  | 516   | 0       | 0   | 0     | 210     | 273 | 483   | 571     | 409 | 980   | 1979         |
| Total                                       | 306     | 555  | 861   | 0       | 0   | 0     | 249     | 664 | 913   | 1117    | 454 | 1571  | 3345         |
| #8 Adeline St./ 3rd St.                     |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base  | 39      | 79   | 118   | 52      | 64  | 116   | 43      | 93  | 136   | 165     | 63  | 228   | 598          |
| Added                                       | 700     | 966  | 1665  | 966     | 700 | 1665  | 0       | 0   | 0     | 0       | 0   | 0     | 3330         |
| Total                                       | 739     | 1045 | 1783  | 1018    | 764 | 1781  | 43      | 93  | 136   | 165     | 63  | 228   | 3928         |
| #9 7th/New Middle Harbor                    |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base  | 0       | 0    | 0     | 0       | 0   | 0     | 0       | 0   | 0     | 0       | 0   | 0     | 0            |
| Added                                       | 122     | 133  | 255   | 0       | 0   | 0     | 501     | 609 | 1110  | 742     | 623 | 1365  | 2730         |
| Total                                       | 122     | 133  | 255   | 0       | 0   | 0     | 501     | 609 | 1110  | 742     | 623 | 1365  | 2730         |
| #10   |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base  | 0       | 0    | 0     | 0       | 0   | 0     | 0       | 0   | 0     | 0       | 0   | 0     | 0            |
| Added                                       | 122     | 178  | 300   | 0       | 0   | 0     | 344     | 349 | 693   | 273     | 210 | 483   | 1476         |
| Total                                       | 122     | 178  | 300   | 0       | 0   | 0     | 344     | 349 | 693   | 273     | 210 | 483   | 1476         |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps |         |      |       |         |     |       |         |     |       |         |     |       |              |
| Base  | 33      | 466  | 499   | 91      | 90  | 181   | 880     | 347 | 1227  | 309     | 410 | 719   | 2626         |
| Added                                       | 429     | 614  | 1043  | 0       | 0   | 0     | 478     | 310 | 788   | 136     | 119 | 255   | 2086         |
| Total                                       | 462     | 1080 | 1542  | 91      | 90  | 181   | 1358    | 657 | 2015  | 445     | 529 | 974   | 4712         |

|   |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
|---|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|------|-------|----------|--|
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| FISCO/Port Vision 2000 EIS/EIR<br>Minimum Marine/Minimum Rail Alternative<br>AM Peak Hour |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Volume  | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total    |  |
| Type  | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | Volume   |  |
| #13 Adeline St./ 5th St./ I-880 SB Ramp   |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 0       | 109                      | 109   | 346     | 620  | 966   | 307     | 334  | 641   | 533     | 123  | 656   | 2372     |  |
| Added   | 700     | 966                      | 1665  | 189     | 123  | 313   | 207     | 125  | 333   | 569     | 451  | 1020  | 3330     |  |
| Total   | 700     | 1075                     | 1774  | 535     | 743  | 1279  | 514     | 459  | 974   | 1102    | 574  | 1676  | 5702     |  |
| #14 Union St./ 5th St./ I-880 North Ramps   |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 220     | 372                      | 592   | 185     | 314  | 499   | 80      | 62   | 142   | 351     | 88   | 439   | 1672     |  |
| Added   | 207     | 125                      | 333   | 0       | 0    | 0     | 0       | 0    | 0     | 125     | 207  | 333   | 665      |  |
| Total   | 427     | 497                      | 925   | 185     | 314  | 499   | 80      | 62   | 142   | 476     | 295  | 772   | 2337     |  |
| #15 7th St./ I-880 NB Ramps / Frontage Rd.  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 569     | 0                        | 569   | 111     | 549  | 660   | 16      | 156  | 172   | 63      | 54   | 117   | 1518     |  |
| Added   | 679     | 0                        | 679   | 379     | 332  | 711   | 345     | 1077 | 1422  | 19      | 13   | 32    | 2843     |  |
| Total   | 1248    | 0                        | 1248  | 490     | 881  | 1371  | 361     | 1233 | 1594  | 82      | 67   | 149   | 4361     |  |
| #16 7th St./ I-880 SB Ramps   |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 0       | 65                       | 65    | 0       | 0    | 0     | 0       | 0    | 0     | 65      | 0    | 65    | 130      |  |
| Added   | 0       | 589                      | 589   | 0       | 0    | 0     | 934     | 1077 | 2011  | 1077    | 345  | 1422  | 4022     |  |
| Total   | 0       | 654                      | 654   | 0       | 0    | 0     | 934     | 1077 | 2011  | 1142    | 345  | 1487  | 4152     |  |
| #17 14th St./ I-880 Frontage Rd.  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 89      | 140                      | 229   | 30      | 6    | 36    | 0       | 0    | 0     | 146     | 119  | 265   | 530      |  |
| Added   | 332     | 379                      | 711   | 379     | 332  | 711   | 0       | 0    | 0     | 0       | 0    | 0     | 1421     |  |
| Total   | 421     | 519                      | 940   | 409     | 338  | 747   | 0       | 0    | 0     | 146     | 119  | 265   | 1951     |  |
| #18 W.Grand Ave./ I-880 Frontage Rd.  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 9       | 60                       | 69    | 732     | 514  | 1246  | 311     | 167  | 478   | 601     | 912  | 1513  | 3306     |  |
| Added   | 332     | 379                      | 711   | 239     | 212  | 451   | 119     | 136  | 255   | 276     | 239  | 515   | 1932     |  |
| Total   | 341     | 439                      | 780   | 971     | 726  | 1697  | 430     | 303  | 733   | 877     | 1151 | 2028  | 5238     |  |
| #134  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0        |  |
| Added   | 124     | 132                      | 256   | 0       | 0    | 0     | 225     | 264  | 489   | 396     | 349  | 745   | 1490     |  |
| Total   | 124     | 132                      | 256   | 0       | 0    | 0     | 225     | 264  | 489   | 396     | 349  | 745   | 1490     |  |
| #138  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | -156    | -173                     | -329  | -199    | -180 | -379  | -24     | -26  | -50   | 0       | 0    | 0     | -758     |  |
| Added   | 69      | 86                       | 155   | 126     | 106  | 232   | 37      | 40   | 77    | 0       | 0    | 0     | 463      |  |
| Total   | -87     | -87                      | -174  | -73     | -74  | -147  | 13      | 14   | 27    | 0       | 0    | 0     | -295     |  |
| #158  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | -309    | 0                        | -309  | 0       | -180 | -180  | 0       | 0    | 0     | 0       | -129 | -129  | -618     |  |
| Added   | 344     | 0                        | 344   | 0       | 205  | 205   | 0       | 0    | 0     | 0       | 139  | 139   | 688      |  |
| Total   | 35      | 0                        | 35    | 0       | 25   | 25    | 0       | 0    | 0     | 0       | 10   | 10    | 70       |  |

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AM Peak Hour

| Volume<br>Type | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total<br>Volume |
|----------------|---------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|-----------------|
|                | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total |                 |
| #159           |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base           | -180    | 0    | -180  | 0       | 0    | 0     | 0       | -358 | -358  | -178    | 0    | -178  | -716            |
| Added          | 205     | 0    | 205   | 0       | 0    | 0     | 0       | 400  | 400   | 195     | 0    | 195   | 800             |
| Total          | 25      | 0    | 25    | 0       | 0    | 0     | 0       | 42   | 42    | 17      | 0    | 17    | 84              |
| #160           |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base           | 0       | -178 | -178  | 0       | 0    | 0     | 0       | -180 | -180  | -358    | 0    | -358  | -716            |
| Added          | 0       | 195  | 195   | 0       | 0    | 0     | 0       | 205  | 205   | 400     | 0    | 400   | 800             |
| Total          | 0       | 17   | 17    | 0       | 0    | 0     | 0       | 25   | 25    | 42      | 0    | 42    | 84              |
| #161           |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base           | 0       | -464 | -464  | -178    | 0    | -178  | -286    | 0    | -286  | 0       | 0    | 0     | -928            |
| Added          | 0       | 536  | 536   | 195     | 0    | 195   | 340     | 0    | 340   | 0       | 0    | 0     | 1072            |
| Total          | 0       | 72   | 72    | 17      | 0    | 17    | 54      | 0    | 54    | 0       | 0    | 0     | 144             |
| #165           |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base           | 0       | -722 | -722  | -227    | 0    | -227  | -495    | 0    | -495  | 0       | 0    | 0     | -1444           |
| Added          | 0       | 797  | 797   | 207     | 0    | 207   | 589     | 0    | 589   | 0       | 0    | 0     | 1593            |
| Total          | 0       | 75   | 75    | -20     | 0    | -20   | 94      | 0    | 94    | 0       | 0    | 0     | 149             |
| #170           |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base           | -717    | 0    | -717  | 0       | -153 | -153  | 0       | 0    | 0     | 0       | -564 | -564  | -1434           |
| Added          | 804     | 0    | 804   | 0       | 125  | 125   | 0       | 0    | 0     | 0       | 679  | 679   | 1608            |
| Total          | 87      | 0    | 87    | 0       | -28  | -28   | 0       | 0    | 0     | 0       | 115  | 115   | 174             |
| #177           |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base           | 0       | -351 | -351  | -351    | 0    | -351  | -129    | 0    | -129  | 0       | -129 | -129  | -960            |
| Added          | 0       | 389  | 389   | 389     | 0    | 389   | 139     | 0    | 139   | 0       | 139  | 139   | 1056            |
| Total          | 0       | 38   | 38    | 38      | 0    | 38    | 10      | 0    | 10    | 0       | 10   | 10    | 96              |
| #178           |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base           | -266    | 0    | -266  | 0       | -370 | -370  | -129    | 0    | -129  | 0       | -25  | -25   | -790            |
| Added          | 302     | 0    | 302   | 0       | 407  | 407   | 139     | 0    | 139   | 0       | 35   | 35    | 883             |
| Total          | 36      | 0    | 36    | 0       | 37   | 37    | 10      | 0    | 10    | 0       | 10   | 10    | 93              |
| #182           |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base           | -370    | 0    | -370  | -475    | -370 | -845  | 0       | -475 | -475  | 0       | 0    | 0     | -1690           |
| Added          | 407     | 0    | 407   | 515     | 407  | 922   | 0       | 515  | 515   | 0       | 0    | 0     | 1844            |
| Total          | 37      | 0    | 37    | 40      | 37   | 77    | 0       | 40   | 40    | 0       | 0    | 0     | 154             |
| #201           |         |      |       |         |      |       |         |      |       |         |      |       |                 |
| Base           | 0       | 0    | 0     | 0       | 0    | 0     | -932    | 0    | -932  | 0       | -932 | -932  | -1864           |
| Added          | 0       | 0    | 0     | 0       | 0    | 0     | 1040    | 0    | 1040  | 0       | 1040 | 1040  | 2080            |
| Total          | 0       | 0    | 0     | 0       | 0    | 0     | 108     | 0    | 108   | 0       | 108  | 108   | 216             |

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FISCO/Port Vision 2000 EIS/EIR  
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AM Peak Hour

| Volume<br>Type | NB Link |      |       | SB Link |       |       | EB Link |      |       | WB Link |      |       | Total<br>Volume |
|----------------|---------|------|-------|---------|-------|-------|---------|------|-------|---------|------|-------|-----------------|
|                | In      | Out  | Total | In      | Out   | Total | In      | Out  | Total | In      | Out  | Total |                 |
| #204           |         |      |       |         |       |       |         |      |       |         |      |       |                 |
| Base           | 0       | -580 | -580  | -932    | 0     | -932  | 0       | 0    | 0     | 0       | -352 | -352  | -1864           |
| Added          | 0       | 649  | 649   | 1040    | 0     | 1040  | 0       | 0    | 0     | 0       | 391  | 391   | 2080            |
| Total          | 0       | 69   | 69    | 108     | 0     | 108   | 0       | 0    | 0     | 0       | 39   | 39    | 216             |
| #207           |         |      |       |         |       |       |         |      |       |         |      |       |                 |
| Base           | -714    | 0    | -714  | 0       | -1110 | -1110 | 0       | 0    | 0     | -396    | 0    | -396  | -222            |
| Added          | 813     | 0    | 813   | 0       | 1248  | 1248  | 0       | 0    | 0     | 435     | 0    | 435   | 2496            |
| Total          | 99      | 0    | 99    | 0       | 138   | 138   | 0       | 0    | 0     | 39      | 0    | 39    | 276             |
| #214           |         |      |       |         |       |       |         |      |       |         |      |       |                 |
| Base           | 0       | -546 | -546  | 0       | 0     | 0     | 0       | -564 | -564  | -1110   | 0    | -1110 | -2220           |
| Added          | 0       | 569  | 569   | 0       | 0     | 0     | 0       | 679  | 679   | 1248    | 0    | 1248  | 2496            |
| Total          | 0       | 23   | 23    | 0       | 0     | 0     | 0       | 115  | 115   | 138     | 0    | 138   | 276             |
| #217           |         |      |       |         |       |       |         |      |       |         |      |       |                 |
| Base           | 0       | -45  | -45   | -45     | 0     | -45   | -25     | 0    | -25   | 0       | -25  | -25   | -140            |
| Added          | 0       | 38   | 38    | 38      | 0     | 38    | 35      | 0    | 35    | 0       | 35   | 35    | 146             |
| Total          | 0       | -7   | -7    | -7      | 0     | -7    | 10      | 0    | 10    | 0       | 10   | 10    | 6               |
| #218           |         |      |       |         |       |       |         |      |       |         |      |       |                 |
| Base           | -21     | 0    | -21   | 0       | -42   | -42   | -25     | 0    | -25   | 0       | -4   | -4    | -92             |
| Added          | 16      | 0    | 16    | 0       | 47    | 47    | 35      | 0    | 35    | 0       | 4    | 4     | 103             |
| Total          | -5      | 0    | -5    | 0       | 5     | 5     | 10      | 0    | 10    | 0       | 0    | 0     | 11              |
| #219           |         |      |       |         |       |       |         |      |       |         |      |       |                 |
| Base           | -43     | 0    | -43   | 0       | -43   | -43   | 0       | -20  | -20   | -20     | 0    | -20   | -126            |
| Added          | 47      | 0    | 47    | 0       | 47    | 47    | 0       | 23   | 23    | 23      | 0    | 23    | 139             |
| Total          | 4       | 0    | 4     | 0       | 4     | 4     | 0       | 3    | 3     | 3       | 0    | 3     | 13              |
| #220           |         |      |       |         |       |       |         |      |       |         |      |       |                 |
| Base           | 0       | -45  | -45   | -79     | 0     | -79   | 0       | -54  | -54   | -20     | 0    | -20   | -198            |
| Added          | 0       | 38   | 38    | 84      | 0     | 84    | 0       | 69   | 69    | 23      | 0    | 23    | 214             |
| Total          | 0       | -7   | -7    | 5       | 0     | 5     | 0       | 15   | 15    | 3       | 0    | 3     | 16              |
| #225           |         |      |       |         |       |       |         |      |       |         |      |       |                 |
| Base           | 0       | 0    | 0     | 0       | -20   | -20   | 0       | -396 | -396  | -416    | 0    | -416  | -832            |
| Added          | 0       | 0    | 0     | 0       | 23    | 23    | 0       | 435  | 435   | 458     | 0    | 458   | 915             |
| Total          | 0       | 0    | 0     | 0       | 3     | 3     | 0       | 39   | 39    | 42      | 0    | 42    | 83              |
| #226           |         |      |       |         |       |       |         |      |       |         |      |       |                 |
| Base           | 0       | 0    | 0     | -4      | 0     | -4    | -352    | 0    | -352  | 0       | -356 | -356  | -712            |
| Added          | 0       | 0    | 0     | 4       | 0     | 4     | 391     | 0    | 391   | 0       | 395  | 395   | 791             |
| Total          | 0       | 0    | 0     | 0       | 0     | 0     | 39      | 0    | 39    | 0       | 39   | 39    | 79              |

Table J.7-5 (Continued)

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| Volume<br>Type | NB Link |     |       | SB Link |      |       | EB Link |      |       | WB Link |     |       | Total<br>Volume |
|----------------|---------|-----|-------|---------|------|-------|---------|------|-------|---------|-----|-------|-----------------|
|                | In      | Out | Total | In      | Out  | Total | In      | Out  | Total | In      | Out | Total |                 |
| #244           |         |     |       |         |      |       |         |      |       |         |     |       |                 |
| Base           | 0       | 0   | 0     | -288    | -312 | -600  | -359    | -333 | -692  | -45     | -47 | -92   | -1384           |
| Added          | 0       | 0   | 0     | 193     | 235  | 428   | 352     | 303  | 655   | 110     | 117 | 227   | 1311            |
| Total          | 0       | 0   | 0     | -95     | -77  | -172  | -7      | -30  | -37   | 65      | 70  | 135   | -73             |

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FISCO/Port Vision 2000 EIS/EIR  
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AM Peak Hour

| Impact Analysis Report<br>Level Of Service |                              |                                |              |  |
|--|------------------------------|--------------------------------|--------------|--|
| Intersection                               | Base<br>Del/ V/<br>LOS Veh C | Future<br>Del/ V/<br>LOS Veh C | Change<br>in |  |
| # 3 Maritime St./ Burma St.                | B 6.3 0.089                  | B 9.0 0.285                    | + 2.643 D/V  |  |
| # 4 Maritime St./ 14th St.                 | C 15.0 0.161                 | C 21.2 0.818                   | + 6.156 D/V  |  |
| # 5 Maritime St./ 7th St. Extensio         | B 12.7 0.071                 | B 10.8 0.372                   | -1.871 D/V   |  |
| # 6 7th St./ 7th St. Extension             | B 12.3 0.009                 | C 18.9 0.571                   | + 6.608 D/V  |  |
| # 7 Middle Harbor Rd. / Gate 2             | B 6.6 0.167                  | C 15.2 0.689                   | + 8.566 D/V  |  |
| # 8 Adeline St./ 3rd St.                   | B 8.7 0.064                  | E 47.9 0.618                   | +39.207 D/V  |  |
| # 9 7th/New Middle Harbor                  | 0.0 0.000                    | B 9.8 0.313                    | + 9.800 D/V  |  |
| # 12 Maritime St./ W.Grand Ave./ I-        | B 12.0 0.242                 | C 17.8 0.561                   | + 5.851 D/V  |  |
| # 13 Adeline St./ 5th St./ I-880 SB        | C 18.3 0.236                 | C 20.8 0.731                   | + 2.508 D/V  |  |
| # 14 Union St./ 5th St./ I-880 Nort        | C 16.4 0.104                 | C 17.2 0.146                   | + 0.792 D/V  |  |
| # 15 7th St./ I-880 NB Ramps / Fron        | B 13.0 0.366                 | C 21.7 0.576                   | + 8.695 D/V  |  |
| # 16 7th St./ I-880 SB Ramps               | A 0.1 0.020                  | A 1.4 0.403                    | + 1.306 D/V  |  |
| # 17 14th St./ I-880 Frontage Rd.          | A 2.8 0.000                  | C 3.2 0.000                    | + 0.000 V/C  |  |
| # 18 W.Grand Ave./ I-880 Frontage R        | C 19.9 0.237                 | C 21.1 0.498                   | + 1.220 D/V  |  |



Table J.7-5 (Continued)

|   |                          |                          |       |             |      |       |            |      |       |            |          |       |
|---|--------------------------|--------------------------|-------|-------------|------|-------|------------|------|-------|------------|----------|-------|
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| FISCO/Port Vision 2000 EIS/EIR<br>Minimum Marine/Minimum Rail Alternative<br>AM Peak Hour     |                          |                          |       |             |      |       |            |      |       |            |          |       |
| Level Of Service Computation Report<br>1994 HCM Operations Method (Future Volume Alternative) |                          |                          |       |             |      |       |            |      |       |            |          |       |
| *****<br>Intersection #3 Maritime St./ Burma St.<br>*****                                     |                          |                          |       |             |      |       |            |      |       |            |          |       |
| Cycle (sec):  | 100                      | Critical Vol./Cap. (X):  |       |             |      |       |            |      |       | 0.285      |          |       |
| Loss Time (sec):  | 8 (Y+R = 4 sec)          | Average Delay (sec/veh): |       |             |      |       |            |      |       | 9.0        |          |       |
| Optimal Cycle:  | 58                       | Level Of Service:        |       |             |      |       |            |      |       | B          |          |       |
| *****   |                          |                          |       |             |      |       |            |      |       |            |          |       |
| Approach:   | North Bound              |                          |       | South Bound |      |       | East Bound |      |       | West Bound |          |       |
| Movement:   | L                        | T                        | R     | L           | T    | R     | L          | T    | R     | L          | T        | R     |
| ----- ----- ----- -----   |                          |                          |       |             |      |       |            |      |       |            |          |       |
| Control:  | Protected                |                          |       | Protected   |      |       | Protected  |      |       | Protected  |          |       |
| Rights:   | Include                  |                          |       | Include     |      |       | Include    |      |       | Include    |          |       |
| Min. Green:   | 10                       | 20                       | 20    | 10          | 20   | 20    | 10         | 20   | 20    | 0          | 0        | 0     |
| Lanes:  | 1                        | 0                        | 1 1 0 | 1           | 0    | 1 1 0 | 1          | 0    | 0 1 0 | 0          | 0        | 0 0 0 |
| ----- ----- ----- -----   |                          |                          |       |             |      |       |            |      |       |            |          |       |
| Volume Module:  |                          |                          |       |             |      |       |            |      |       |            |          |       |
| Base Vol:   | 5                        | 78                       | 0     | 0           | 287  | 0     | 0          | 0    | 5     | 0          | 0        | 0     |
| Growth Adj:   | 1.00                     | 1.00                     | 1.00  | 1.00        | 1.00 | 1.00  | 1.00       | 1.00 | 1.00  | 1.00       | 1.00     | 1.00  |
| Initial Bse:  | 5                        | 78                       | 0     | 0           | 287  | 0     | 0          | 0    | 5     | 0          | 0        | 0     |
| Added Vol:  | 0                        | 282                      | 0     | 0           | 391  | 224   | 147        | 0    | 0     | 0          | 0        | 0     |
| PasserByVol:  | 0                        | 0                        | 0     | 0           | 0    | 0     | 0          | 0    | 0     | 0          | 0        | 0     |
| Initial Fut:  | 5                        | 360                      | 0     | 0           | 678  | 224   | 147        | 0    | 5     | 0          | 0        | 0     |
| User Adj:   | 1.00                     | 1.00                     | 1.00  | 1.00        | 1.00 | 1.00  | 1.00       | 1.00 | 1.00  | 1.00       | 1.00     | 1.00  |
| PHF Adj:  | 1.00                     | 1.00                     | 1.00  | 1.00        | 1.00 | 1.00  | 1.00       | 1.00 | 1.00  | 1.00       | 1.00     | 1.00  |
| PHF Volume:   | 5                        | 360                      | 0     | 0           | 678  | 224   | 147        | 0    | 5     | 0          | 0        | 0     |
| Reduct Vol:   | 0                        | 0                        | 0     | 0           | 0    | 0     | 0          | 0    | 0     | 0          | 0        | 0     |
| Reduced Vol:  | 5                        | 360                      | 0     | 0           | 678  | 224   | 147        | 0    | 5     | 0          | 0        | 0     |
| PCE Adj:  | 1.00                     | 1.00                     | 1.00  | 1.00        | 1.00 | 1.00  | 1.00       | 1.00 | 1.00  | 1.00       | 1.00     | 1.00  |
| MLF Adj:  | 1.00                     | 1.05                     | 1.05  | 1.00        | 1.05 | 1.05  | 1.00       | 1.00 | 1.00  | 1.00       | 1.00     | 1.00  |
| Final Vol.:   | 5                        | 378                      | 0     | 0           | 711  | 235   | 147        | 0    | 5     | 0          | 0        | 0     |
| ----- ----- ----- -----   |                          |                          |       |             |      |       |            |      |       |            |          |       |
| Saturation Flow Module:   |                          |                          |       |             |      |       |            |      |       |            |          |       |
| Sat/Lane:   | 1900                     | 1900                     | 1900  | 1900        | 1900 | 1900  | 1900       | 1900 | 1900  | 1900       | 1900     | 1900  |
| Adjustment:   | 0.95                     | 1.00                     | 1.00  | 1.00        | 0.96 | 0.96  | 0.95       | 1.00 | 0.85  | 1.00       | 1.00     | 1.00  |
| Lanes:  | 1.00                     | 2.00                     | 0.00  | 1.00        | 1.50 | 0.50  | 1.00       | 0.00 | 1.00  | 0.00       | 0.00     | 0.00  |
| Final Sat.:   | 1805                     | 3800                     | 0     | 1900        | 2742 | 906   | 1805       | 0    | 1615  | 0          | 0        | 0     |
| ----- ----- ----- -----   |                          |                          |       |             |      |       |            |      |       |            |          |       |
| Capacity Analysis Module:   |                          |                          |       |             |      |       |            |      |       |            |          |       |
| Vol/Sat:  | 0.00                     | 0.10                     | 0.00  | 0.00        | 0.26 | 0.26  | 0.08       | 0.00 | 0.00  | 0.00       | 0.00     | 0.00  |
| Crit Moves:   | ****                     |                          |       |             | **** |       |            | **** |       |            |          |       |
| Green/Cycle:  | 0.10                     | 0.48                     | 0.00  | 0.00        | 0.62 | 0.62  | 0.20       | 0.00 | 0.20  | 0.00       | 0.00     | 0.00  |
| Volume/Cap:   | 0.03                     | 0.21                     | 0.00  | 0.00        | 0.42 | 0.42  | 0.41       | 0.00 | 0.02  | 0.00       | 0.00     | 0.00  |
| ----- ----- ----- -----   |                          |                          |       |             |      |       |            |      |       |            |          |       |
| Level Of Service Module:  |                          |                          |       |             |      |       |            |      |       |            |          |       |
| Delay/Veh:  | 26.2                     | 9.7                      | 0.0   | 0.0         | 6.4  | 6.4   | 22.9       | 0.0  | 20.7  | 0.0        | 0.0      | 0.0   |
| User DelAdj:  | 1.00                     | 1.00                     | 1.00  | 1.00        | 1.00 | 1.00  | 1.00       | 1.00 | 1.00  | 1.00       | 1.00     | 1.00  |
| AdjDel/Veh:   | 26.2                     | 9.7                      | 0.0   | 0.0         | 6.4  | 6.4   | 22.9       | 0.0  | 20.7  | 0.0        | 0.0      | 0.0   |
| Queue:  | 0                        | 6                        | 0     | 0           | 10   | 3     | 4          | 0    | 0     | 0          | 0        | 0     |
| *****   |                          |                          |       |             |      |       |            |      |       |            |          |       |

|  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
|--|--|--------------------------|------|--------------------------|-------------|------|------|------------|------|------|------------|----------|------|---|
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| FISCO/Port Vision 2000 EIS/EIR                         |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Minimum Marine/Minimum Rail Alternative                |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| AM Peak Hour   |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Level Of Service Computation Report                    |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| 1994 HCM Operations Method (Future Volume Alternative) |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| *****  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Intersection #4 Maritime St./ 14th St.                 |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| *****  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Cycle (sec):   |  | 100                      |      | Critical Vol./Cap. (X):  |             |      |      |            |      |      |            | 0.818    |      |   |
| Loss Time (sec):                                       |  | 8 (Y+R = 4 sec)          |      | Average Delay (sec/veh): |             |      |      |            |      |      |            | 21.2     |      |   |
| Optimal Cycle:   |  | 70                       |      | Level Of Service:        |             |      |      |            |      |      |            | C        |      |   |
| *****  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Approach:  |  | North Bound              |      |                          | South Bound |      |      | East Bound |      |      | West Bound |          |      |   |
| Movement:  |  | L - T - R                |      |                          | L - T - R   |      |      | L - T - R  |      |      | L - T - R  |          |      |   |
| Control:   |  | Protected                |      |                          | Protected   |      |      | Permitted  |      |      | Permitted  |          |      |   |
| Rights:  |  | Include                  |      |                          | Include     |      |      | Ovl        |      |      | Include    |          |      |   |
| Min. Green:  |  | 10                       | 20   | 20                       | 10          | 20   | 20   | 10         | 20   | 20   | 10         | 20       | 20   |   |
| Lanes:   |  | 1                        | 0    | 1                        | 1           | 0    | 1    | 0          | 1    | 1    | 0          | 0        | 1    | 0 |
| *****  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Volume Module:   |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Base Vol:  |  | 0                        | 91   | 39                       | 103         | 261  | 0    | 0          | 0    | 0    | 22         | 0        | 87   |   |
| Growth Adj:  |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00     | 1.00 |   |
| Initial Bse:   |  | 0                        | 91   | 39                       | 103         | 261  | 0    | 0          | 0    | 0    | 22         | 0        | 87   |   |
| Added Vol:   |  | 392                      | 167  | 0                        | 0           | 251  | 140  | 115        | 0    | 364  | 0          | 0        | 0    |   |
| PasserByVol:   |  | 0                        | 0    | 0                        | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0        | 0    |   |
| Initial Fut:   |  | 392                      | 258  | 39                       | 103         | 512  | 140  | 115        | 0    | 364  | 22         | 0        | 87   |   |
| User Adj:  |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00     | 1.00 |   |
| PHF Adj:   |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00     | 1.00 |   |
| PHF Volume:  |  | 392                      | 258  | 39                       | 103         | 512  | 140  | 115        | 0    | 364  | 22         | 0        | 87   |   |
| Reduct Vol:  |  | 0                        | 0    | 0                        | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0        | 0    |   |
| Reduced Vol:   |  | 392                      | 258  | 39                       | 103         | 512  | 140  | 115        | 0    | 364  | 22         | 0        | 87   |   |
| PCE Adj:   |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00     | 1.00 |   |
| MLF Adj:   |  | 1.00                     | 1.05 | 1.05                     | 1.00        | 1.05 | 1.05 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00     | 1.00 |   |
| Final Vol.:  |  | 392                      | 271  | 41                       | 103         | 537  | 147  | 115        | 0    | 364  | 22         | 0        | 87   |   |
| *****  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Saturation Flow Module:                                |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Sat/Lane:  |  | 1900                     | 1900 | 1900                     | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900     | 1900 |   |
| Adjustment:  |  | 0.95                     | 0.98 | 0.98                     | 0.95        | 0.97 | 0.97 | 0.72       | 1.00 | 0.72 | 0.56       | 1.00     | 0.85 |   |
| Lanes:   |  | 1.00                     | 1.74 | 0.26                     | 1.00        | 1.57 | 0.43 | 0.24       | 0.00 | 0.76 | 1.00       | 0.00     | 1.00 |   |
| Final Sat.:  |  | 1805                     | 3235 | 489                      | 1805        | 2894 | 792  | 328        | 0    | 1040 | 1064       | 0        | 1615 |   |
| *****  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Capacity Analysis Module:                              |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Vol/Sat:   |  | 0.22                     | 0.08 | 0.08                     | 0.06        | 0.19 | 0.19 | 0.35       | 0.00 | 0.35 | 0.02       | 0.00     | 0.05 |   |
| Crit Moves:  |  | ****                     |      |                          | ****        |      |      | ****       |      |      |            |          |      |   |
| Green/Cycle:   |  | 0.27                     | 0.33 | 0.33                     | 0.16        | 0.23 | 0.23 | 0.43       | 0.00 | 0.69 | 0.43       | 0.00     | 0.43 |   |
| Volume/Cap:  |  | 0.82                     | 0.26 | 0.26                     | 0.35        | 0.82 | 0.82 | 0.82       | 0.00 | 0.51 | 0.05       | 0.00     | 0.13 |   |
| *****  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Level Of Service Module:                               |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |
| Delay/Veh:   |  | 29.7                     | 15.9 | 15.9                     | 24.2        | 28.2 | 28.2 | 22.5       | 0.0  | 5.1  | 10.8       | 0.0      | 11.2 |   |
| User DelAdj:   |  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00     | 1.00 |   |
| AdjDel/Veh:  |  | 29.7                     | 15.9 | 15.9                     | 24.2        | 28.2 | 28.2 | 22.5       | 0.0  | 5.1  | 10.8       | 0.0      | 11.2 |   |
| Queue:   |  | 12                       | 6    | 1                        | 3           | 15   | 5    | 4          | 0    | 5    | 0          | 0        | 1    |   |
| *****  |  |                          |      |                          |             |      |      |            |      |      |            |          |      |   |

|  |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
|--|--------------------------|--------------------------|------|-------------|------|------|------------|------|------|------------|------|-------|----------|
| B-AM.CMD   | Tue Nov 5, 1996 13:06:46 |                          |      |             |      |      |            |      |      |            |      |       | Page 8-1 |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Minimum Marine/Minimum Rail Alternative                |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| AM Peak Hour   |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Level Of Service Computation Report                    |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Intersection #5 Maritime St./ 7th St. Extension        |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      |            |      | 0.372 |          |
| Loss Time (sec):                                       | 8 (Y+R = 4 sec)          | Average Delay (sec/veh): |      |             |      |      |            |      |      |            |      | 10.8  |          |
| Optimal Cycle:   | 48                       | Level Of Service:        |      |             |      |      |            |      |      |            |      | B     |          |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound |      |      | West Bound |      |       |          |
| Movement:  | L                        | T                        | R    | L           | T    | R    | L          | T    | R    | L          | T    | R     |          |
| ----- ----- ----- ----- ----- -----                    |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Control:   | Protected                |                          |      | Protected   |      |      | Protected  |      |      | Protected  |      |       |          |
| Rights:  | Include                  |                          |      | Ovl         |      |      | Ovl        |      |      | Include    |      |       |          |
| Min. Green:  | 10                       | 20                       | 0    | 0           | 20   | 20   | 10         | 0    | 20   | 0          | 0    | 0     |          |
| Lanes:   | 2                        | 0                        | 2    | 0           | 0    | 1    | 2          | 0    | 0    | 0          | 0    | 0     |          |
| ----- ----- ----- ----- ----- -----                    |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Volume Module:   |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Base Vol:  | 159                      | 0                        | 0    | 0           | 0    | 334  | 69         | 0    | 37   | 0          | 0    | 0     |          |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| Initial Bse:   | 159                      | 0                        | 0    | 0           | 0    | 334  | 69         | 0    | 37   | 0          | 0    | 0     |          |
| Added Vol:   | 310                      | 489                      | 0    | 0           | 529  | 86   | 70         | 0    | 279  | 0          | 0    | 0     |          |
| PasserByVol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |          |
| Initial Fut:   | 469                      | 489                      | 0    | 0           | 529  | 420  | 139        | 0    | 316  | 0          | 0    | 0     |          |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| PHF Volume:  | 469                      | 489                      | 0    | 0           | 529  | 420  | 139        | 0    | 316  | 0          | 0    | 0     |          |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |          |
| Reduced Vol:   | 469                      | 489                      | 0    | 0           | 529  | 420  | 139        | 0    | 316  | 0          | 0    | 0     |          |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| MLF Adj:   | 1.03                     | 1.05                     | 1.00 | 1.00        | 1.05 | 1.00 | 1.03       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| Final Vol.:  | 483                      | 514                      | 0    | 0           | 556  | 420  | 143        | 0    | 316  | 0          | 0    | 0     |          |
| ----- ----- ----- ----- ----- -----                    |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Saturation Flow Module:                                |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900  |          |
| Adjustment:  | 0.95                     | 1.00                     | 1.00 | 1.00        | 1.00 | 0.85 | 0.95       | 1.00 | 0.85 | 1.00       | 1.00 | 1.00  |          |
| Lanes:   | 2.00                     | 2.00                     | 0.00 | 0.00        | 2.00 | 1.00 | 2.00       | 0.00 | 1.00 | 0.00       | 0.00 | 0.00  |          |
| Final Sat.:  | 3610                     | 3800                     | 0    | 0           | 3800 | 1615 | 3610       | 0    | 1615 | 0          | 0    | 0     |          |
| ----- ----- ----- ----- ----- -----                    |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Capacity Analysis Module:                              |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Vol/Sat:   | 0.13                     | 0.14                     | 0.00 | 0.00        | 0.15 | 0.26 | 0.04       | 0.00 | 0.20 | 0.00       | 0.00 | 0.00  |          |
| Crit Moves:  | ****                     |                          |      |             | **** |      |            |      | **** |            |      |       |          |
| Green/Cycle:   | 0.36                     | 0.75                     | 0.00 | 0.00        | 0.39 | 0.56 | 0.17       | 0.00 | 0.53 | 0.00       | 0.00 | 0.00  |          |
| Volume/Cap:  | 0.37                     | 0.18                     | 0.00 | 0.00        | 0.37 | 0.46 | 0.24       | 0.00 | 0.37 | 0.00       | 0.00 | 0.00  |          |
| ----- ----- ----- ----- ----- -----                    |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Level Of Service Module:                               |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Delay/Veh:   | 15.4                     | 2.3                      | 0.0  | 0.0         | 14.0 | 8.7  | 23.4       | 0.0  | 9.1  | 0.0        | 0.0  | 0.0   |          |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| AdjDel/Veh:  | 15.4                     | 2.3                      | 0.0  | 0.0         | 14.0 | 8.7  | 23.4       | 0.0  | 9.1  | 0.0        | 0.0  | 0.0   |          |
| Queue:   | 10                       | 4                        | 0    | 0           | 11   | 7    | 3          | 0    | 5    | 0          | 0    | 0     |          |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |          |

|  |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
|--|--------------------------|--------------------------|------|-------------|------|------|------------|------|------|------------|------|-------|----------|
| B-AM.CMD   | Tue Nov 5, 1996 13:06:46 |                          |      |             |      |      |            |      |      |            |      |       | Page 9-1 |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Minimum Marine/Minimum Rail Alternative                |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| AM Peak Hour   |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Level Of Service Computation Report                    |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Intersection #6 7th St./ 7th St. Extension             |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      |            |      | 0.571 |          |
| Loss Time (sec):                                       | 8 (Y+R = 4 sec)          | Average Delay (sec/veh): |      |             |      |      |            |      |      |            |      | 18.9  |          |
| Optimal Cycle:   | 68                       | Level Of Service:        |      |             |      |      |            |      |      |            |      | C     |          |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound |      |      | West Bound |      |       |          |
| Movement:  | L                        | T                        | R    | L           | T    | R    | L          | T    | R    | L          | T    | R     |          |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Control:   | Protected                |                          |      | Protected   |      |      | Protected  |      |      | Protected  |      |       |          |
| Rights:  | Include                  |                          |      | Include     |      |      | Include    |      |      | Ovl        |      |       |          |
| Min. Green:  | 10                       | 20                       | 20   | 10          | 20   | 20   | 10         | 20   | 20   | 0          | 20   | 20    |          |
| Lanes:   | 1                        | 0                        | 1    | 1           | 0    | 1    | 1          | 0    | 2    | 1          | 0    | 1     |          |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Volume Module:   |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Base Vol:  | 15                       | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 26         | 0    | 54    |          |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| Initial Bse:   | 15                       | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 26         | 0    | 54    |          |
| Added Vol:   | 58                       | 138                      | 49   | 463         | 160  | 186  | 139        | 422  | 62   | 55         | 499  | 523   |          |
| PasserByVol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |          |
| Initial Fut:   | 73                       | 138                      | 49   | 463         | 160  | 186  | 139        | 422  | 62   | 81         | 499  | 577   |          |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| PHF Volume:  | 73                       | 138                      | 49   | 463         | 160  | 186  | 139        | 422  | 62   | 81         | 499  | 577   |          |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |          |
| Reduced Vol:   | 73                       | 138                      | 49   | 463         | 160  | 186  | 139        | 422  | 62   | 81         | 499  | 577   |          |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| MLF Adj:   | 1.00                     | 1.05                     | 1.05 | 1.00        | 1.00 | 1.00 | 1.00       | 1.10 | 1.10 | 1.00       | 1.05 | 1.00  |          |
| Final Vol.:  | 73                       | 145                      | 51   | 463         | 160  | 186  | 139        | 464  | 68   | 81         | 524  | 577   |          |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Saturation Flow Module:                                |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900  |          |
| Adjustment:  | 0.95                     | 0.96                     | 0.96 | 0.95        | 1.00 | 0.85 | 0.95       | 0.98 | 0.98 | 0.95       | 1.00 | 0.85  |          |
| Lanes:   | 1.00                     | 1.48                     | 0.52 | 1.00        | 1.00 | 1.00 | 1.00       | 2.62 | 0.38 | 1.00       | 2.00 | 1.00  |          |
| Final Sat.:  | 1805                     | 2699                     | 949  | 1805        | 1900 | 1615 | 1805       | 4872 | 714  | 1805       | 3800 | 1615  |          |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Capacity Analysis Module:                              |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Vol/Sat:   | 0.04                     | 0.05                     | 0.05 | 0.26        | 0.08 | 0.12 | 0.08       | 0.10 | 0.10 | 0.04       | 0.14 | 0.36  |          |
| Crit Moves:  | ****                     |                          |      | ****        |      |      | ****       |      |      | ****       |      |       |          |
| Green/Cycle:   | 0.20                     | 0.20                     | 0.20 | 0.39        | 0.39 | 0.39 | 0.12       | 0.20 | 0.20 | 0.13       | 0.21 | 0.60  |          |
| Volume/Cap:  | 0.21                     | 0.27                     | 0.27 | 0.65        | 0.21 | 0.29 | 0.65       | 0.48 | 0.48 | 0.35       | 0.65 | 0.59  |          |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Level Of Service Module:                               |                          |                          |      |             |      |      |            |      |      |            |      |       |          |
| Delay/Veh:   | 21.7                     | 21.9                     | 21.9 | 17.6        | 12.9 | 13.4 | 32.1       | 23.1 | 23.1 | 26.1       | 24.7 | 8.7   |          |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| AdjDel/Veh:  | 21.7                     | 21.9                     | 21.9 | 17.6        | 12.9 | 13.4 | 32.1       | 23.1 | 23.1 | 26.1       | 24.7 | 8.7   |          |
| Queue:   | 2                        | 3                        | 1    | 11          | 3    | 4    | 4          | 11   | 2    | 2          | 14   | 10    |          |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |          |

Table J.7-5 (Continued)

|  |                          |                          |      |             |      |      |            |      |       |            |           |      |
|--|--------------------------|--------------------------|------|-------------|------|------|------------|------|-------|------------|-----------|------|
| B-AM.CMD   | Tue Nov 5, 1996 13:06:46 |                          |      |             |      |      |            |      |       |            | Page 10-1 |      |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |                          |      |             |      |      |            |      |       |            |           |      |
| Minimum Marine/Minimum Rail Alternative                |                          |                          |      |             |      |      |            |      |       |            |           |      |
| AM Peak Hour   |                          |                          |      |             |      |      |            |      |       |            |           |      |
| Level Of Service Computation Report                    |                          |                          |      |             |      |      |            |      |       |            |           |      |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |            |      |       |            |           |      |
| Intersection #7 Middle Harbor Rd. / Gate 2             |                          |                          |      |             |      |      |            |      |       |            |           |      |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      | 0.689 |            |           |      |
| Loss Time (sec):                                       | 0 (Y+R = 4 sec)          | Average Delay (sec/veh): |      |             |      |      |            |      | 15.2  |            |           |      |
| Optimal Cycle:   | 73                       | Level Of Service:        |      |             |      |      |            |      | C     |            |           |      |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound |      |       | West Bound |           |      |
| Movement:  | L                        | T                        | R    | L           | T    | R    | L          | T    | R     | L          | T         | R    |
| Control:   | Protected                |                          |      | Protected   |      |      | Protected  |      |       | Protected  |           |      |
| Rights:  | Include                  |                          |      | Include     |      |      | Include    |      |       | Include    |           |      |
| Min. Green:  | 10                       | 0                        | 20   | 0           | 0    | 0    | 0          | 20   | 20    | 10         | 20        | 0    |
| Lanes:   | 1                        | 0                        | 0    | 0           | 1    | 0    | 0          | 0    | 0     | 1          | 1         | 0    |
| Volume Module:   |                          |                          |      |             |      |      |            |      |       |            |           |      |
| Base Vol:  | 53                       | 0                        | 45   | 0           | 0    | 0    | 0          | 0    | 39    | 208        | 338       | 0    |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |
| Initial Bse:   | 53                       | 0                        | 45   | 0           | 0    | 0    | 0          | 0    | 39    | 208        | 338       | 0    |
| Added Vol:   | 1                        | 0                        | 207  | 0           | 0    | 0    | 0          | 0    | 202   | 8          | 300       | 271  |
| PasserByVol:   | 106                      | 0                        | 159  | 0           | 0    | 0    | 0          | 0    | 71    | 106        | 0         | 0    |
| Initial Fut:   | 160                      | 0                        | 411  | 0           | 0    | 0    | 0          | 0    | 202   | 118        | 614       | 609  |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |
| PHF Volume:  | 160                      | 0                        | 411  | 0           | 0    | 0    | 0          | 0    | 202   | 118        | 614       | 609  |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0     | 0          | 0         | 0    |
| Reduced Vol:   | 160                      | 0                        | 411  | 0           | 0    | 0    | 0          | 0    | 202   | 118        | 614       | 609  |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |
| MLF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.05 | 1.05  | 1.00       | 1.05      | 1.00 |
| Final Vol.:  | 160                      | 0                        | 411  | 0           | 0    | 0    | 0          | 0    | 213   | 124        | 614       | 640  |
| Saturation Flow Module:                                |                          |                          |      |             |      |      |            |      |       |            |           |      |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900  | 1900       | 1900      | 1900 |
| Adjustment:  | 0.95                     | 1.00                     | 0.85 | 1.00        | 1.00 | 1.00 | 1.00       | 0.94 | 0.94  | 0.95       | 1.00      | 1.00 |
| Lanes:   | 1.00                     | 0.00                     | 1.00 | 0.00        | 0.00 | 0.00 | 0.00       | 1.26 | 0.74  | 1.00       | 2.00      | 0.00 |
| Final Sat.:  | 1805                     | 0                        | 1615 | 0           | 0    | 0    | 0          | 2258 | 1314  | 1805       | 3800      | 0    |
| Capacity Analysis Module:                              |                          |                          |      |             |      |      |            |      |       |            |           |      |
| Vol/Sat:   | 0.09                     | 0.00                     | 0.25 | 0.00        | 0.00 | 0.00 | 0.00       | 0.09 | 0.09  | 0.34       | 0.17      | 0.00 |
| Crit Moves:  | ****                     |                          |      | ****        |      |      | ****       |      |       | ****       |           |      |
| Green/Cycle:   | 0.34                     | 0.00                     | 0.34 | 0.00        | 0.00 | 0.00 | 0.00       | 0.20 | 0.20  | 0.46       | 0.66      | 0.00 |
| Volume/Cap:  | 0.26                     | 0.00                     | 0.74 | 0.00        | 0.00 | 0.00 | 0.00       | 0.47 | 0.47  | 0.74       | 0.26      | 0.00 |
| Level Of Service Module:                               |                          |                          |      |             |      |      |            |      |       |            |           |      |
| Delay/Veh:   | 15.4                     | 0.0                      | 22.5 | 0.0         | 0.0  | 0.0  | 0.0        | 23.2 | 23.2  | 16.9       | 4.6       | 0.0  |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |
| AdjDel/Veh:  | 15.4                     | 0.0                      | 22.5 | 0.0         | 0.0  | 0.0  | 0.0        | 23.2 | 23.2  | 16.9       | 4.6       | 0.0  |
| Queue:   | 3                        | 0                        | 11   | 0           | 0    | 0    | 0          | 5    | 3     | 15         | 7         | 0    |

|   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
|---|--|--------------------------|--|--|--|--|--|--|--|--|--|-----------|--|
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| FISCO/Port Vision 2000 EIS/EIR<br>Minimum Marine/Minimum Rail Alternative<br>AM Peak Hour     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Level Of Service Computation Report<br>1994 HCM Operations Method (Future Volume Alternative) |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Intersection #8 Adeline St./ 3rd St.  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Cycle (sec): 100 Critical Vol./Cap. (X): 0.618  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 47.9                               |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Optimal Cycle: 92 Level Of Service: E   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Approach: North Bound South Bound East Bound West Bound                                       |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Movement: L - T - R L - T - R L - T - R L - T - R   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Control: Split Phase Split Phase Split Phase Split Phase                                      |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Rights: Include Include Include Include   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Min. Green: 10 20 20 10 20 20 10 20 20 10 20 20   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Lanes: 0 1 0 1 0 0 1 0 1 0 0 1 0 1 0  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Volume Module:  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Base Vol: 8 0 31 26 0 26 8 6 29 50 59 56  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00                       |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Initial Bse: 8 0 31 26 0 26 8 6 29 50 59 56   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Added Vol: 0 700 0 0 966 0 0 0 0 0 0 0  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Initial Fut: 8 700 31 26 966 26 8 6 29 50 59 56   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00                         |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00                          |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PHF Volume: 8 700 31 26 966 26 8 6 29 50 59 56  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Reduced Vol: 8 700 31 26 966 26 8 6 29 50 59 56   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00                          |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| MLF Adj: 1.05 1.05 1.05 1.05 1.05 1.05 1.00 1.00 1.00 1.05 1.05 1.05                          |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Final Vol.: 8 735 33 27 1014 27 8 6 29 53 62 59   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Saturation Flow Module:   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900                         |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Adjustment: 0.99 0.99 0.99 1.00 1.00 1.00 0.97 0.97 0.85 0.94 0.94 0.94                       |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Lanes: 0.02 1.89 0.09 0.05 1.90 0.05 0.57 0.43 1.00 0.61 0.71 0.68                            |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Final Sat.: 39 3563 160 96 3608 96 1053 790 1615 1089 1273 1212                               |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Capacity Analysis Module:   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Vol/Sat: 0.21 0.21 0.21 0.28 0.28 0.28 0.01 0.01 0.02 0.05 0.05 0.05                          |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Crit Moves: ****  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Green/Cycle: 0.20 0.20 0.20 0.28 0.28 0.28 0.20 0.20 0.20 0.20 0.20 0.20                      |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Volume/Cap: 1.02 1.02 1.02 1.02 1.02 1.02 0.04 0.04 0.09 0.24 0.24 0.24                       |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Level Of Service Module:  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Delay/Veh: 54.6 54.6 54.6 48.4 48.4 48.4 20.8 20.8 21.1 21.8 21.8 21.8                        |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00                      |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| AdjDel/Veh: 54.6 54.6 54.6 48.4 48.4 48.4 20.8 20.8 21.1 21.8 21.8 21.8                       |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Queue: 1 28 2 2 38 2 0 0 1 1 1 1  |  |                          |  |  |  |  |  |  |  |  |  |           |  |



|  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
|--|--------------------------|--------------------------|------|-------------|------|------|------------|------|------|------------|------|-------|-----------|
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| FISCO/Port Vision 2000 EIS/EIR                         |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Minimum Marine/Minimum Rail Alternative                |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| AM Peak Hour   |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Level Of Service Computation Report                    |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Intersection #9 7th/New Middle Harbor                  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      |            |      | 0.313 |           |
| Loss Time (sec):                                       | 8 (Y+R = 4 sec)          | Average Delay (sec/veh): |      |             |      |      |            |      |      |            |      | 9.8   |           |
| Optimal Cycle:   | 58                       | Level Of Service:        |      |             |      |      |            |      |      |            |      | B     |           |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound |      |      | West Bound |      |       |           |
| Movement:  | L                        | T                        | R    | L           | T    | R    | L          | T    | R    | L          | T    | R     |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Control:   | Protected                |                          |      | Protected   |      |      | Protected  |      |      | Protected  |      |       |           |
| Rights:  | Include                  |                          |      | Include     |      |      | Include    |      |      | Include    |      |       |           |
| Min. Green:  | 10                       | 0                        | 20   | 0           | 0    | 0    | 0          | 20   | 20   | 10         | 20   | 0     |           |
| Lanes:   | 1                        | 0                        | 0    | 0           | 1    | 0    | 0          | 0    | 0    | 1          | 1    | 0     |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Volume Module:   |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Base Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |           |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| Initial Bse:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |           |
| Added Vol:   | 0                        | 0                        | 122  | 0           | 0    | 0    | 0          | 501  | 0    | 133        | 609  | 0     |           |
| PasserByVol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |           |
| Initial Fut:   | 0                        | 0                        | 122  | 0           | 0    | 0    | 0          | 501  | 0    | 133        | 609  | 0     |           |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| PHF Volume:  | 0                        | 0                        | 122  | 0           | 0    | 0    | 0          | 501  | 0    | 133        | 609  | 0     |           |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |           |
| Reduced Vol:   | 0                        | 0                        | 122  | 0           | 0    | 0    | 0          | 501  | 0    | 133        | 609  | 0     |           |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| MLF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.05 | 1.05 | 1.00       | 1.05 | 1.05  |           |
| Final Vol.:  | 0                        | 0                        | 122  | 0           | 0    | 0    | 0          | 526  | 0    | 133        | 639  | 0     |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Saturation Flow Module:                                |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900  |           |
| Adjustment:  | 1.00                     | 1.00                     | 0.85 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 0.95       | 1.00 | 1.00  |           |
| Lanes:   | 1.00                     | 0.00                     | 1.00 | 0.00        | 0.00 | 0.00 | 0.00       | 2.00 | 0.00 | 1.00       | 2.00 | 0.00  |           |
| Final Sat.:  | 1900                     | 0                        | 1615 | 0           | 0    | 0    | 0          | 3800 | 0    | 1805       | 3800 | 0     |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Capacity Analysis Module:                              |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Vol/Sat:   | 0.00                     | 0.00                     | 0.08 | 0.00        | 0.00 | 0.00 | 0.00       | 0.14 | 0.00 | 0.07       | 0.17 | 0.00  |           |
| Crit Moves:  | ****                     |                          |      | ****        |      |      | ****       |      |      | ****       |      |       |           |
| Green/Cycle:   | 0.00                     | 0.00                     | 0.24 | 0.00        | 0.00 | 0.00 | 0.00       | 0.44 | 0.00 | 0.24       | 0.68 | 0.00  |           |
| Volume/Cap:  | 0.00                     | 0.00                     | 0.31 | 0.00        | 0.00 | 0.00 | 0.00       | 0.31 | 0.00 | 0.31       | 0.25 | 0.00  |           |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Level Of Service Module:                               |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Delay/Veh:   | 0.0                      | 0.0                      | 20.3 | 0.0         | 0.0  | 0.0  | 0.0        | 11.7 | 0.0  | 20.5       | 4.0  | 0.0   |           |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| AdjDel/Veh:  | 0.0                      | 0.0                      | 20.3 | 0.0         | 0.0  | 0.0  | 0.0        | 11.7 | 0.0  | 20.5       | 4.0  | 0.0   |           |
| Queue:   | 0                        | 0                        | 3    | 0           | 0    | 0    | 0          | 9    | 0    | 3          | 7    | 0     |           |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |

|  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
|--|--|--------------------------|--|--------------------------|----------------|--|--|----------------|--|--|----------------|-----------|--|
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| FISCO/Port Vision 2000 EIS/EIR                           |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Minimum Marine/Minimum Rail Alternative                  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| AM Peak Hour   |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Level Of Service Computation Report                      |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| 1994 HCM Operations Method (Future Volume Alternative)   |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| *****  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| *****  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Cycle (sec):   |  | 100                      |  | Critical Vol./Cap. (X):  |                |  |  |                |  |  |                | 0.561     |  |
| Loss Time (sec):   |  | 10 (Y+R = 4 sec)         |  | Average Delay (sec/veh): |                |  |  |                |  |  |                | 17.8      |  |
| Optimal Cycle:   |  | 70                       |  | Level Of Service:        |                |  |  |                |  |  |                | C         |  |
| *****  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Approach:  |  | North Bound              |  |                          | South Bound    |  |  | East Bound     |  |  | West Bound     |           |  |
| Movement:  |  | L - T - R                |  |                          | L - T - R      |  |  | L - T - R      |  |  | L - T - R      |           |  |
| ----- ----- ----- -----                                  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Control:   |  | Protected                |  |                          | Protected      |  |  | Protected      |  |  | Protected      |           |  |
| Rights:  |  | Include                  |  |                          | Include        |  |  | Include        |  |  | Include        |           |  |
| Min. Green:  |  | 10 20 20                 |  |                          | 10 20 20       |  |  | 10 20 20       |  |  | 10 20 20       |           |  |
| Lanes:   |  | 2 0 0 1 0                |  |                          | 1 0 0 1 0      |  |  | 1 0 1 1 1      |  |  | 1 0 1 1 0      |           |  |
| ----- ----- ----- -----                                  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Volume Module:   |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Base Vol:  |  | 0 33 0                   |  |                          | 16 28 47       |  |  | 48 394 438     |  |  | 0 300 9        |           |  |
| Growth Adj:  |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |           |  |
| Initial Bse:   |  | 0 33 0                   |  |                          | 16 28 47       |  |  | 48 394 438     |  |  | 0 300 9        |           |  |
| Added Vol:   |  | 310 0 119                |  |                          | 0 0 0          |  |  | 0 0 478        |  |  | 136 0 0        |           |  |
| PasserByVol:   |  | 0 0 0                    |  |                          | 0 0 0          |  |  | 0 0 0          |  |  | 0 0 0          |           |  |
| Initial Fut:   |  | 310 33 119               |  |                          | 16 28 47       |  |  | 48 394 916     |  |  | 136 300 9      |           |  |
| User Adj:  |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |           |  |
| PHF Adj:   |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |           |  |
| PHF Volume:  |  | 310 33 119               |  |                          | 16 28 47       |  |  | 48 394 916     |  |  | 136 300 9      |           |  |
| Reduct Vol:  |  | 0 0 0                    |  |                          | 0 0 0          |  |  | 0 0 0          |  |  | 0 0 0          |           |  |
| Reduced Vol:   |  | 310 33 119               |  |                          | 16 28 47       |  |  | 48 394 916     |  |  | 136 300 9      |           |  |
| PCE Adj:   |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |           |  |
| MLF Adj:   |  | 1.03 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.05 |  |  | 1.00 1.05 1.05 |           |  |
| Final Vol.:  |  | 319 33 119               |  |                          | 16 28 47       |  |  | 48 394 962     |  |  | 136 315 9      |           |  |
| ----- ----- ----- -----                                  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Saturation Flow Module:                                  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Sat/Lane:  |  | 1900 1900 1900           |  |                          | 1900 1900 1900 |  |  | 1900 1900 1900 |  |  | 1900 1900 1900 |           |  |
| Adjustment:  |  | 0.95 0.88 0.88           |  |                          | 0.95 0.91 0.91 |  |  | 0.95 1.00 0.85 |  |  | 0.95 1.00 1.00 |           |  |
| Lanes:   |  | 2.00 0.22 0.78           |  |                          | 1.00 0.37 0.63 |  |  | 1.00 1.00 2.00 |  |  | 1.00 1.94 0.06 |           |  |
| Final Sat.:  |  | 3610 363 1309            |  |                          | 1805 645 1084  |  |  | 1805 1900 3230 |  |  | 1805 3694 106  |           |  |
| ----- ----- ----- -----                                  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Capacity Analysis Module:                                |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Vol/Sat:   |  | 0.09 0.09 0.09           |  |                          | 0.01 0.04 0.04 |  |  | 0.03 0.21 0.30 |  |  | 0.08 0.09 0.09 |           |  |
| Crit Moves:  |  | ****                     |  |                          | ****           |  |  | ****           |  |  | ****           |           |  |
| Green/Cycle:   |  | 0.13 0.22 0.22           |  |                          | 0.11 0.20 0.20 |  |  | 0.19 0.45 0.45 |  |  | 0.11 0.38 0.38 |           |  |
| Volume/Cap:  |  | 0.66 0.41 0.41           |  |                          | 0.08 0.22 0.22 |  |  | 0.14 0.46 0.66 |  |  | 0.66 0.23 0.23 |           |  |
| ----- ----- ----- -----                                  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Level Of Service Module:                                 |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Delay/Veh:   |  | 28.9 21.9 21.9           |  |                          | 25.7 21.7 21.7 |  |  | 21.9 12.3 14.4 |  |  | 32.5 13.7 13.7 |           |  |
| User DelAdj:   |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |           |  |
| AdjDel/Veh:  |  | 28.9 21.9 21.9           |  |                          | 25.7 21.7 21.7 |  |  | 21.9 12.3 14.4 |  |  | 32.5 13.7 13.7 |           |  |
| Queue:   |  | 9 1 3                    |  |                          | 0 1 1          |  |  | 1 8 21         |  |  | 4 6 0          |           |  |
| *****  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |



Table J.7-5 (Continued)

|   |                          |      |                          |             |      |      |             |      |       |             |           |      |
|---|--------------------------|------|--------------------------|-------------|------|------|-------------|------|-------|-------------|-----------|------|
| B-AM.CMD  | Tue Nov 5, 1996 13:06:46 |      |                          |             |      |      |             |      |       |             | Page 14-1 |      |
| FISCO/Port Vision 2000 EIS/EIR<br>Minimum Marine/Minimum Rail Alternative<br>AM Peak Hour     |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Level Of Service Computation Report<br>1994 HCM Operations Method (Future Volume Alternative) |                          |      |                          |             |      |      |             |      |       |             |           |      |
| *****   |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp  |                          |      |                          |             |      |      |             |      |       |             |           |      |
| *****   |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Cycle (sec):  | 100                      |      | Critical Vol./Cap. (X):  |             |      |      |             |      | 0.731 |             |           |      |
| Loss Time (sec):  | 12 (Y+R = 4 sec)         |      | Average Delay (sec/veh): |             |      |      |             |      | 20.8  |             |           |      |
| Optimal Cycle:  | 82                       |      | Level Of Service:        |             |      |      |             |      | C     |             |           |      |
| *****   |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Approach:   | North Bound              |      |                          | South Bound |      |      | East Bound  |      |       | West Bound  |           |      |
| Movement:   | L                        | T    | R                        | L           | T    | R    | L           | T    | R     | L           | T         | R    |
| ----- ----- ----- -----   |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Control:  | Protected                |      |                          | Protected   |      |      | Split Phase |      |       | Split Phase |           |      |
| Rights:   | Ovl                      |      |                          | Include     |      |      | Include     |      |       | Include     |           |      |
| Min. Green:   | 10                       | 20   | 20                       | 10          | 20   | 20   | 10          | 10   | 20    | 10          | 20        | 20   |
| Lanes:  | 1                        | 0    | 1                        | 1           | 0    | 1    | 1           | 0    | 1     | 0           | 1         | 1    |
| ----- ----- ----- -----   |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Volume Module:  |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Base Vol:   | 0                        | 0    | 0                        | 72          | 109  | 165  | 256         | 51   | 0     | 0           | 169       | 364  |
| Growth Adj:   | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00 |
| Initial Bse:  | 0                        | 0    | 0                        | 72          | 109  | 165  | 256         | 51   | 0     | 0           | 169       | 364  |
| Added Vol:  | 125                      | 123  | 451                      | 0           | 189  | 0    | 0           | 0    | 207   | 569         | 0         | 0    |
| PasserByVol:  | 0                        | 0    | 0                        | 0           | 0    | 0    | 0           | 0    | 0     | 0           | 0         | 0    |
| Initial Fut:  | 125                      | 123  | 451                      | 72          | 298  | 165  | 256         | 51   | 207   | 569         | 169       | 364  |
| User Adj:   | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 0.50 |
| PHF Adj:  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00 |
| PHF Volume:   | 125                      | 123  | 451                      | 72          | 298  | 165  | 256         | 51   | 207   | 569         | 169       | 182  |
| Reduct Vol:   | 0                        | 0    | 0                        | 0           | 0    | 0    | 0           | 0    | 0     | 0           | 0         | 0    |
| Reduced Vol:  | 125                      | 123  | 451                      | 72          | 298  | 165  | 256         | 51   | 207   | 569         | 169       | 182  |
| PCE Adj:  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00 |
| MLF Adj:  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.05 | 1.05 | 1.05        | 1.00 | 1.00  | 1.00        | 1.05      | 1.05 |
| Final Vol.:   | 125                      | 123  | 451                      | 72          | 313  | 173  | 269         | 51   | 207   | 569         | 177       | 191  |
| ----- ----- ----- -----   |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Saturation Flow Module:   |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Sat/Lane:   | 1900                     | 1900 | 1900                     | 1900        | 1900 | 1900 | 1900        | 1900 | 1900  | 1900        | 1900      | 1900 |
| Adjustment:   | 0.95                     | 1.00 | 0.85                     | 0.95        | 0.95 | 0.95 | 0.95        | 0.88 | 0.88  | 0.95        | 0.92      | 0.92 |
| Lanes:  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.29 | 0.71 | 1.66        | 0.34 | 1.00  | 1.00        | 0.96      | 1.04 |
| Final Sat.:   | 1805                     | 1900 | 1615                     | 1805        | 2325 | 1285 | 2997        | 568  | 1672  | 1805        | 1682      | 1815 |
| ----- ----- ----- -----   |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Capacity Analysis Module:   |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Vol/Sat:  | 0.07                     | 0.06 | 0.28                     | 0.04        | 0.13 | 0.13 | 0.09        | 0.09 | 0.12  | 0.32        | 0.11      | 0.11 |
| Crit Moves:   | ****                     |      |                          | ****        |      |      | ****        |      |       | ****        |           |      |
| Green/Cycle:  | 0.10                     | 0.20 | 0.58                     | 0.10        | 0.20 | 0.20 | 0.20        | 0.20 | 0.20  | 0.38        | 0.38      | 0.38 |
| Volume/Cap:   | 0.69                     | 0.32 | 0.48                     | 0.40        | 0.67 | 0.67 | 0.45        | 0.45 | 0.62  | 0.83        | 0.28      | 0.28 |
| ----- ----- ----- -----   |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Level Of Service Module:  |                          |      |                          |             |      |      |             |      |       |             |           |      |
| Delay/Veh:  | 35.4                     | 22.1 | 8.2                      | 28.0        | 25.6 | 25.6 | 22.9        | 22.9 | 24.6  | 24.0        | 13.9      | 13.9 |
| User DelAdj:  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00 |
| AdjDel/Veh:   | 35.4                     | 22.1 | 8.2                      | 28.0        | 25.6 | 25.6 | 22.9        | 22.9 | 24.6  | 24.0        | 13.9      | 13.9 |
| Queue:  | 4                        | 3    | 7                        | 2           | 8    | 5    | 7           | 1    | 6     | 16          | 3         | 4    |
| *****   |                          |      |                          |             |      |      |             |      |       |             |           |      |

|   |                          |      |       |                          |      |       |             |      |       |             |           |       |
|---|--------------------------|------|-------|--------------------------|------|-------|-------------|------|-------|-------------|-----------|-------|
| B-AM.CMD  | Tue Nov 5, 1996 13:06:46 |      |       |                          |      |       |             |      |       |             | Page 15-1 |       |
| FISCO/Port Vision 2000 EIS/EIR<br>Minimum Marine/Minimum Rail Alternative<br>AM Peak Hour     |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Level Of Service Computation Report<br>1994 HCM Operations Method (Future Volume Alternative) |                          |      |       |                          |      |       |             |      |       |             |           |       |
| *****   |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Intersection #14 Union St./ 5th St./ I-880 North Ramps  |                          |      |       |                          |      |       |             |      |       |             |           |       |
| *****   |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Cycle (sec):  | 100                      |      |       | Critical Vol./Cap. (X):  |      |       |             |      |       | 0.146       |           |       |
| Loss Time (sec):  | 11 (Y+R = 4 sec)         |      |       | Average Delay (sec/veh): |      |       |             |      |       | 17.2        |           |       |
| Optimal Cycle:  | 71                       |      |       | Level Of Service:        |      |       |             |      |       | C           |           |       |
| *****   |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Approach:   | North Bound              |      |       | South Bound              |      |       | East Bound  |      |       | West Bound  |           |       |
| Movement:   | L                        | T    | R     | L                        | T    | R     | L           | T    | R     | L           | T         | R     |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Control:  | Protected                |      |       | Protected                |      |       | Split Phase |      |       | Split Phase |           |       |
| Rights:   | Include                  |      |       | Include                  |      |       | Include     |      |       | Include     |           |       |
| Min. Green:   | 0                        | 20   | 20    | 0                        | 20   | 20    | 10          | 20   | 20    | 10          | 20        | 20    |
| Lanes:  | 0                        | 0    | 1 1 1 | 0                        | 0    | 1 1 0 | 0           | 1    | 0 1 0 | 1           | 0         | 1 1 0 |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Volume Module:  |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Base Vol:   | 0                        | 175  | 45    | 0                        | 154  | 31    | 24          | 43   | 13    | 205         | 31        | 115   |
| Growth Adj:   | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |
| Initial Bse:  | 0                        | 175  | 45    | 0                        | 154  | 31    | 24          | 43   | 13    | 205         | 31        | 115   |
| Added Vol:  | 0                        | 0    | 207   | 0                        | 0    | 0     | 0           | 0    | 0     | 125         | 0         | 0     |
| PasserByVol:  | 0                        | 0    | 0     | 0                        | 0    | 0     | 0           | 0    | 0     | 0           | 0         | 0     |
| Initial Fut:  | 0                        | 175  | 252   | 0                        | 154  | 31    | 24          | 43   | 13    | 330         | 31        | 115   |
| User Adj:   | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |
| PHF Adj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |
| PHF Volume:   | 0                        | 175  | 252   | 0                        | 154  | 31    | 24          | 43   | 13    | 330         | 31        | 115   |
| Reduct Vol:   | 0                        | 0    | 0     | 0                        | 0    | 0     | 0           | 0    | 0     | 0           | 0         | 0     |
| Reduced Vol:  | 0                        | 175  | 252   | 0                        | 154  | 31    | 24          | 43   | 13    | 330         | 31        | 115   |
| PCE Adj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |
| MLF Adj:  | 1.00                     | 1.10 | 1.10  | 1.00                     | 1.05 | 1.05  | 1.05        | 1.05 | 1.05  | 1.00        | 1.00      | 1.00  |
| Final Vol.:   | 0                        | 193  | 278   | 0                        | 162  | 33    | 25          | 45   | 14    | 330         | 31        | 115   |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Saturation Flow Module:   |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Sat/Lane:   | 1900                     | 1900 | 1900  | 1900                     | 1900 | 1900  | 1900        | 1900 | 1900  | 1900        | 1900      | 1900  |
| Adjustment:   | 1.00                     | 0.91 | 0.91  | 1.00                     | 0.97 | 0.97  | 0.96        | 0.96 | 0.96  | 0.95        | 1.00      | 0.85  |
| Lanes:  | 0.00                     | 1.23 | 1.77  | 0.00                     | 1.66 | 0.34  | 0.60        | 1.07 | 0.33  | 1.00        | 1.00      | 1.00  |
| Final Sat.:   | 0                        | 2125 | 3062  | 0                        | 3062 | 624   | 1086        | 1955 | 608   | 1805        | 1900      | 1615  |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Capacity Analysis Module:   |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Vol/Sat:  | 0.00                     | 0.09 | 0.09  | 0.00                     | 0.05 | 0.05  | 0.02        | 0.02 | 0.02  | 0.18        | 0.02      | 0.07  |
| Crit Moves:   | ****                     |      |       | ****                     |      |       | ****        |      |       | ****        |           |       |
| Green/Cycle:  | 0.00                     | 0.23 | 0.23  | 0.00                     | 0.23 | 0.23  | 0.20        | 0.20 | 0.20  | 0.46        | 0.46      | 0.46  |
| Volume/Cap:   | 0.00                     | 0.40 | 0.40  | 0.00                     | 0.23 | 0.23  | 0.12        | 0.12 | 0.12  | 0.40        | 0.04      | 0.15  |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Level Of Service Module:  |                          |      |       |                          |      |       |             |      |       |             |           |       |
| Delay/Veh:  | 0.0                      | 21.2 | 21.2  | 0.0                      | 20.3 | 20.3  | 21.2        | 21.2 | 21.2  | 11.7        | 9.5       | 10.1  |
| User DelAdj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |
| AdjDel/Veh:   | 0.0                      | 21.2 | 21.2  | 0.0                      | 20.3 | 20.3  | 21.2        | 21.2 | 21.2  | 11.7        | 9.5       | 10.1  |
| Queue:  | 0                        | 5    | 7     | 0                        | 4    | 1     | 1           | 1    | 0     | 6           | 0         | 2     |
| *****   |                          |      |       |                          |      |       |             |      |       |             |           |       |

|  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
|--|--|--------------------------|--|--|--|--|--|--|--|--|--|-----------|--|
| B-AM.CMD   |  | Tue Nov 5, 1996 13:06:46 |  |  |  |  |  |  |  |  |  | Page 16-1 |  |
| FISCO/Port Vision 2000 EIS/EIR   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Minimum Marine/Minimum Rail Alternative                                  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| AM Peak Hour   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Level Of Service Computation Report                                      |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| 1994 HCM Operations Method (Future Volume Alternative)                   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.                  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Cycle (sec): 100 Critical Vol./Cap. (X): 0.576                           |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 21.7          |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Optimal Cycle: 70 Level Of Service C                                     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Approach: North Bound South Bound East Bound West Bound                  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Movement: L - T - R L - T - R L - T - R L - T - R                        |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Control: Protected Protected Protected Protected                         |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Rights: Include Ovl Include Include                                      |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Min. Green: 10 20 20 10 20 20 10 20 20 0 20 20                           |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Lanes: 2 0 0 1 0 1 0 0 0 2 1 0 2 0 0 0 0 1 1 0                           |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Volume Module:   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Base Vol: 0 548 21 17 0 94 0 16 0 0 62 1                                 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Initial Bse: 0 548 21 17 0 94 0 16 0 0 62 1                              |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Added Vol: 679 0 0 0 0 379 332 13 0 0 19 0                               |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0                                     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Initial Fut: 679 548 21 17 0 473 332 29 0 0 81 1                         |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00    |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PHF Volume: 679 548 21 17 0 473 332 29 0 0 81 1                          |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0                                      |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Reduced Vol: 679 548 21 17 0 473 332 29 0 0 81 1                         |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| MLF Adj: 1.03 1.00 1.00 1.00 1.00 1.13 1.00 1.05 1.00 1.00 1.05 1.05     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Final Vol.: 699 548 21 17 0 534 332 30 0 0 85 1                          |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Saturation Flow Module:  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900    |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Adjustment: 0.95 0.99 0.99 0.95 1.00 0.85 0.95 1.00 1.00 1.00 1.00 1.00  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Lanes: 2.00 0.96 0.04 1.00 0.00 2.00 1.00 2.00 0.00 0.00 1.98 0.02       |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Final Sat.: 3610 1812 69 1805 0 3230 1805 3800 0 0 3756 44               |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Capacity Analysis Module:  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Vol/Sat: 0.19 0.30 0.30 0.01 0.00 0.17 0.18 0.01 0.00 0.00 0.02 0.02     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Crit Moves: **** **** **** ****  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Green/Cycle: 0.27 0.37 0.37 0.10 0.00 0.43 0.23 0.43 0.00 0.00 0.20 0.20 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Volume/Cap: 0.71 0.81 0.81 0.09 0.00 0.39 0.81 0.02 0.00 0.00 0.11 0.11  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Level Of Service Module:   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Delay/Veh: 22.8 23.2 23.2 26.4 0.0 12.8 31.7 10.7 0.0 0.0 21.2 21.2      |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| AdjDel/Veh: 22.8 23.2 23.2 26.4 0.0 12.8 31.7 10.7 0.0 0.0 21.2 21.2     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Queue: 18 15 1 0 0 10 10 0 0 0 2 0                                       |  |                          |  |  |  |  |  |  |  |  |  |           |  |

|   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
|---|--|--------------------------|--|--|--|--|--|--|--|--|--|-----------|--|
| B-AM.CMD  |  | Tue Nov 5, 1996 13:06:46 |  |  |  |  |  |  |  |  |  | Page 17-1 |  |
| FISCO/Port Vision 2000 EIS/EIR  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Minimum Marine/Minimum Rail Alternative                                       |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| AM Peak Hour  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Level Of Service Computation Report   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| 1994 HCM Operations Method (Future Volume Alternative)                        |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Intersection #16 7th St./ I-880 SB Ramps                                      |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Cycle (sec): 100 Critical Vol./Cap. (X): 0.403                                |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Loss Time (sec): 5 (Y+R = 4 sec) Average Delay (sec/veh): 1.4                 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Optimal Cycle: 35 Level Of Service: A   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Approach: North Bound South Bound East Bound West Bound                       |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Movement: L - T - R L - T - R L - T - R L - T - R                             |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Control: Protected Protected Protected Protected                              |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Rights: Include Include Include Include                                       |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Min. Green: 0 0 0 0 0 0 0 0 20 20 10 20 20                                    |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Lanes: 0 0 0 0 0 0 0 0 2 0 1 2 0 2 0 0  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Volume Module:  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Base Vol: 0 0 0 0 0 0 0 0 0 0 65 0 0  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Initial Bse: 0 0 0 0 0 0 0 0 0 0 65 0 0                                       |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Added Vol: 0 0 0 0 0 0 0 0 345 589 0 1077 0                                   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Initial Fut: 0 0 0 0 0 0 0 0 345 589 65 1077 0                                |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00    |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PHF Volume: 0 0 0 0 0 0 0 0 345 589 65 1077 0                                 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Reduced Vol: 0 0 0 0 0 0 0 0 345 589 65 1077 0                                |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.05 1.00 1.03 1.05 1.00     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Final Vol.: 0 0 0 0 0 0 0 0 362 589 67 1131 0                                 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Saturation Flow Module:   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900    |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.85 0.95 1.00 1.00  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Lanes: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 2.00 1.00 2.00 2.00 0.00       |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Final Sat.: 0 0 0 0 0 0 0 0 3800 1615 3610 3800 0                             |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Capacity Analysis Module:   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Vol/Sat: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.10 0.36 0.02 0.30 0.00     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Crit Moves: **** *  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Green/Cycle: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.85 0.85 0.10 0.95 0.00 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Volume/Cap: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.11 0.43 0.19 0.31 0.00  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Level Of Service Module:  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Delay/Veh: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.8 1.3 26.7 0.1 0.0               |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| AdjDel1/Veh: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.8 1.3 26.7 0.1 0.0             |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Queue: 0 0 0 0 0 0 0 0 2 4 2 2 0  |  |                          |  |  |  |  |  |  |  |  |  |           |  |

Table J.7-5 (Continued)

B-AM.CMD

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FISCO/Port Vision 2000 EIS/EIR

Minimum Marine/Minimum Rail Alternative

AM Peak Hour

Level Of Service Computation Report

1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #17 14th St./ I-880 Frontage Rd.

Average Delay (sec/veh): 3.2 Worst Case Level Of Service: C

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign

Rights: Include Include Include Include

Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 0 1 0 0 0 1

Volume Module:

Base Vol: 0 0 89 30 0 0 0 0 0 0 140 0 6

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 0 0 89 30 0 0 0 0 0 0 140 0 6

Added Vol: 0 332 0 0 379 0 0 0 0 0 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0

Initial Fut: 0 332 89 30 379 0 0 0 0 140 0 6

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 0 332 89 30 379 0 0 0 140 0 6

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0

Final Vol.: 0 332 89 30 379 0 0 0 140 0 6

Adjusted Volume Module:

Grade: 0% 0% 0% 0%

% Cycle/Cars: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

% Truck/Comb: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

PCE Adj: 1.10 1.00 1.00 1.10 1.00 1.00 1.10 1.10 1.10 1.10 1.10 1.10

Cycl/Car PCE: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

Trck/Cmb PCE: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

Adj Vol.: 0 332 89 33 379 0 0 0 154 0 7

Critical Gap Module:

MoveUp Time:xxxxxx xxxx xxxxxx 2.1 xxxxx xxxxxx xxxxxx xxxxxx 3.4 xxxxx 2.6

Critical Gp:xxxxxx xxxx xxxxxx 5.5 xxxxx xxxxxx xxxxxx xxxxxx 7.0 xxxxx 5.5

Capacity Module:

Cnflct Vol: xxxx xxxx xxxxxx 421 xxxxx xxxxxx xxxx xxxx xxxxxx 785 xxxxx 210

Potent Cap.: xxxx xxxx xxxxxx 1019 xxxxx xxxxxx xxxx xxxx xxxxxx 333 xxxxx 1083

Adj Cap: xxxx xxxx xxxxxx 1.00 xxxxx xxxxxx xxxx xxxx xxxxxx 0.97 xxxxx 1.00

Move Cap.: xxxx xxxx xxxxxx 1019 xxxxx xxxxxx xxxx xxxx xxxxxx 322 xxxxx 1083

Level Of Service Module:

Stopped Del:xxxxxx xxxx xxxxxx 3.6 xxxxx xxxxxx xxxxxx xxxx xxxxxx 19.7 xxxxx 3.3

LOS by Move: \* \* \* A \* \* \* C \* A

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx xxxx xxxxxx xxxx xxxx xxxxxx xxxx xxxx xxxxxx xxxx xxxx xxxxxx

Shrd StpDel:xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx

Shared LOS: \* \* \* \* \*

ApproachDel: 0.0 0.3 0.0 19.0

|  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
|--|--|--------------------------|--|--------------------------|----------------|--|--|----------------|--|--|----------------|-----------|--|
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| FISCO/Port Vision 2000 EIS/EIR                         |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Minimum Marine/Minimum Rail Alternative                |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| AM Peak Hour   |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Level Of Service Computation Report                    |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| 1994 HCM Operations Method (Future Volume Alternative) |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Intersection #18 W.Grand Ave./ I-880 Frontage Rd.      |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| *****  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Cycle (sec):   |  | 100                      |  | Critical Vol./Cap. (X):  |                |  |  |                |  |  |                | 0.498     |  |
| Loss Time (sec):                                       |  | 11 (Y+R = 4 sec)         |  | Average Delay (sec/veh): |                |  |  |                |  |  |                | 21.1      |  |
| Optimal Cycle:   |  | 81                       |  | Level Of Service:        |                |  |  |                |  |  |                | C         |  |
| *****  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Approach:  |  | North Bound              |  |                          | South Bound    |  |  | East Bound     |  |  | West Bound     |           |  |
| Movement:  |  | L - T - R                |  |                          | L - T - R      |  |  | L - T - R      |  |  | L - T - R      |           |  |
| -----  |  | -----                    |  |                          | -----          |  |  | -----          |  |  | -----          |           |  |
| Control:   |  | Split Phase              |  |                          | Split Phase    |  |  | Protected      |  |  | Protected      |           |  |
| Rights:  |  | Include                  |  |                          | Include        |  |  | Include        |  |  | Include        |           |  |
| Min. Green:  |  | 10 20 20                 |  |                          | 10 20 20       |  |  | 10 20 20       |  |  | 10 20 20       |           |  |
| Lanes:   |  | 1 0 1 1 0                |  |                          | 1 1 0 1 0      |  |  | 1 0 1 1 0      |  |  | 1 0 1 1 1      |           |  |
| -----  |  | -----                    |  |                          | -----          |  |  | -----          |  |  | -----          |           |  |
| Volume Module:   |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Base Vol:  |  | 9 0 0                    |  |                          | 678 48 6       |  |  | 65 234 12      |  |  | 0 152 449      |           |  |
| Growth Adj:  |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |           |  |
| Initial Bse:   |  | 9 0 0                    |  |                          | 678 48 6       |  |  | 65 234 12      |  |  | 0 152 449      |           |  |
| Added Vol:   |  | 0 212 120                |  |                          | 0 239 0        |  |  | 0 0 119 0      |  |  | 140 136 0      |           |  |
| PasserByVol:   |  | 0 0 0                    |  |                          | 0 0 0          |  |  | 0 0 0          |  |  | 0 0 0          |           |  |
| Initial Fut:   |  | 9 212 120                |  |                          | 678 287 6      |  |  | 65 353 12      |  |  | 140 288 449    |           |  |
| User Adj:  |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |           |  |
| PHF Adj:   |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |           |  |
| PHF Volume:  |  | 9 212 120                |  |                          | 678 287 6      |  |  | 65 353 12      |  |  | 140 288 449    |           |  |
| Reduct Vol:  |  | 0 0 0                    |  |                          | 0 0 0          |  |  | 0 0 0          |  |  | 0 0 0          |           |  |
| Reduced Vol:   |  | 9 212 120                |  |                          | 678 287 6      |  |  | 65 353 12      |  |  | 140 288 449    |           |  |
| PCE Adj:   |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |           |  |
| MLF Adj:   |  | 1.00 1.05 1.05           |  |                          | 1.05 1.00 1.00 |  |  | 1.00 1.05 1.05 |  |  | 1.00 1.10 1.10 |           |  |
| Final Vol.:  |  | 9 222 126                |  |                          | 712 287 6      |  |  | 65 371 13      |  |  | 140 317 494    |           |  |
| -----  |  | -----                    |  |                          | -----          |  |  | -----          |  |  | -----          |           |  |
| Saturation Flow Module:                                |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Sat/Lane:  |  | 1900 1900 1900           |  |                          | 1900 1900 1900 |  |  | 1900 1900 1900 |  |  | 1900 1900 1900 |           |  |
| Adjustment:  |  | 0.95 0.95 0.95           |  |                          | 0.95 1.00 1.00 |  |  | 0.95 1.00 1.00 |  |  | 0.95 0.91 0.91 |           |  |
| Lanes:   |  | 1.00 1.28 0.72           |  |                          | 2.00 0.98 0.02 |  |  | 1.00 1.93 0.07 |  |  | 1.00 1.17 1.83 |           |  |
| Final Sat.:  |  | 1805 2303 1307           |  |                          | 3610 1861 39   |  |  | 1805 3671 129  |  |  | 1805 2027 3160 |           |  |
| -----  |  | -----                    |  |                          | -----          |  |  | -----          |  |  | -----          |           |  |
| Capacity Analysis Module:                              |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Vol/Sat:   |  | 0.00 0.10 0.10           |  |                          | 0.20 0.15 0.15 |  |  | 0.04 0.10 0.10 |  |  | 0.08 0.16 0.16 |           |  |
| Crit Moves:  |  | ****                     |  |                          | ****           |  |  | ****           |  |  | ****           |           |  |
| Green/Cycle:   |  | 0.20 0.20 0.20           |  |                          | 0.33 0.33 0.33 |  |  | 0.10 0.24 0.24 |  |  | 0.12 0.26 0.26 |           |  |
| Volume/Cap:  |  | 0.02 0.48 0.48           |  |                          | 0.60 0.47 0.47 |  |  | 0.36 0.42 0.42 |  |  | 0.64 0.60 0.60 |           |  |
| -----  |  | -----                    |  |                          | -----          |  |  | -----          |  |  | -----          |           |  |
| Level Of Service Module:                               |  |                          |  |                          |                |  |  |                |  |  |                |           |  |
| Delay/Veh:   |  | 20.8 23.3 23.3           |  |                          | 18.5 17.3 17.3 |  |  | 27.7 20.9 20.9 |  |  | 31.5 21.5 21.5 |           |  |
| User DelAdj:   |  | 1.00 1.00 1.00           |  |                          | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |  |  | 1.00 1.00 1.00 |           |  |
| AdjDel/Veh:  |  | 20.8 23.3 23.3           |  |                          | 18.5 17.3 17.3 |  |  | 27.7 20.9 20.9 |  |  | 31.5 21.5 21.5 |           |  |
| Queue:   |  | 0 6 3                    |  |                          | 17 6 0         |  |  | 2 9 0          |  |  | 4 8 12         |           |  |
| *****  |  |                          |  |                          |                |  |  |                |  |  |                |           |  |



FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

## Trip Generation Report

## Forecast for PM Peak Hour

| Zone # | Subzone          | Amount | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|--------|------------------|--------|----------------|---------|----------|----------|-----------|-------------|------------|
| 1      | New Harbor       | 391.00 | Employees      | 0.06    | 0.22     | 23       | 86        | 109         | 2.3        |
|        | Zone 1 Subtotal  |        |                |         |          | 23       | 86        | 109         | 2.3        |
| 2      | Hrbr Trns Ct     | 400.00 | Employees      | 0.06    | 0.21     | 24       | 84        | 108         | 2.3        |
|        | Zone 2 Subtotal  |        |                |         |          | 24       | 84        | 108         | 2.3        |
| 3      | J.I.T.           | 167.00 | Employees      | 0.10    | 0.36     | 17       | 60        | 77          | 1.7        |
|        | Zone 3 Subtotal  |        |                |         |          | 17       | 60        | 77          | 1.7        |
| 4      | SP Rail Term     | 150.00 | Employees      | 0.10    | 0.36     | 15       | 54        | 69          | 1.5        |
|        | Zone 4 Subtotal  |        |                |         |          | 15       | 54        | 69          | 1.5        |
| 5      | UP Rail Term     | 67.00  | Employees      | 0.10    | 0.36     | 7        | 24        | 31          | 0.7        |
|        | Zone 5 Subtotal  |        |                |         |          | 7        | 24        | 31          | 0.7        |
| 6      | Middle Harbr     | 516.00 | Employees      | 0.06    | 0.22     | 31       | 114       | 145         | 3.1        |
|        | Zone 6 Subtotal  |        |                |         |          | 31       | 114       | 145         | 3.1        |
| 7      | 7th St Harbr     | 613.00 | Employees      | 0.06    | 0.22     | 37       | 135       | 172         | 3.7        |
|        | Zone 7 Subtotal  |        |                |         |          | 37       | 135       | 172         | 3.7        |
| 8      | Outer Harbor     | 792.00 | Employees      | 0.06    | 0.21     | 48       | 166       | 214         | 4.6        |
|        | Zone 8 Subtotal  |        |                |         |          | 48       | 166       | 214         | 4.6        |
| 10     | New Park         | 1.00   | Total Trips    | 16.00   | 38.00    | 16       | 38        | 54          | 1.2        |
|        | Zone 10 Subtotal |        |                |         |          | 16       | 38        | 54          | 1.2        |
| 11     | New Harbor       | 1.00   | Trucks Inter   | 38.00   | 45.00    | 38       | 45        | 83          | 1.8        |
|        | Zone 11 Subtotal |        |                |         |          | 38       | 45        | 83          | 1.8        |
| 16     | Middle Harbr     | 1.00   | Trucks Inter   | 50.00   | 59.00    | 50       | 59        | 109         | 2.3        |
|        | Zone 16 Subtotal |        |                |         |          | 50       | 59        | 109         | 2.3        |
| 17     | 7th St Harbr     | 1.00   | Trucks Inter   | 59.00   | 71.00    | 59       | 71        | 130         | 2.8        |
|        | Zone 17 Subtotal |        |                |         |          | 59       | 71        | 130         | 2.8        |
| 18     | Outer Harbor     | 1.00   | Trucks Inter   | 76.00   | 91.00    | 76       | 91        | 167         | 3.6        |
|        | Zone 18 Subtotal |        |                |         |          | 76       | 91        | 167         | 3.6        |
| 21     | New Harbor       | 1.00   | Truck External | 185.00  | 222.00   | 185      | 222       | 407         | 8.8        |
|        | Zone 21 Subtotal |        |                |         |          | 185      | 222       | 407         | 8.8        |
| 23     | J.I.T.           | 1.00   | Truck External | 161.00  | 193.00   | 161      | 193       | 354         | 7.6        |

FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

| Zone # | Subzone          | Amount | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|--------|------------------|--------|----------------|---------|----------|----------|-----------|-------------|------------|
|        | Zone 23 Subtotal |        |                |         |          | 161      | 193       | 354         | 7.6        |
| 24     | SP Rail Term     | 1.00   | Truck External | 144.00  | 172.00   | 144      | 172       | 316         | 6.8        |
|        | Zone 24 Subtotal |        |                |         |          | 144      | 172       | 316         | 6.8        |
| 25     | UP Rail Term     | 1.00   | Truck External | 48.00   | 58.00    | 48       | 58        | 106         | 2.3        |
|        | Zone 25 Subtotal |        |                |         |          | 48       | 58        | 106         | 2.3        |
| 26     | Middle Harbr     | 1.00   | Truck External | 244.00  | 293.00   | 244      | 293       | 537         | 11.5       |
|        | Zone 26 Subtotal |        |                |         |          | 244      | 293       | 537         | 11.5       |
| 27     | 7th St Harbr     | 1.00   | Truck External | 290.00  | 348.00   | 290      | 348       | 638         | 13.7       |
|        | Zone 27 Subtotal |        |                |         |          | 290      | 348       | 638         | 13.7       |
| 28     | Outer Harbor     | 1.00   | Truck External | 375.00  | 449.00   | 375      | 449       | 824         | 17.7       |
|        | Zone 28 Subtotal |        |                |         |          | 375      | 449       | 824         | 17.7       |
| TOTAL  |                  |        |                |         |          | 1888     | 2762      | 4650        | 100.0      |



Table J.7-6 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

## Trip Distribution Report

Percent Of Trips Existing

| Zone | To Gates |      |      |      |      |      |      |      |       |
|------|----------|------|------|------|------|------|------|------|-------|
|      | 3        | 4    | 5    | 11   | 12   | 13   | 14   | 15   | 16    |
| 1    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 2    | 0.0      | 0.0  | 0.0  | 10.0 | 30.0 | 7.0  | 19.0 | 19.0 | 15.0  |
| 3    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 4    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 5    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 6    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 7    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 8    | 0.0      | 0.0  | 0.0  | 5.0  | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 10   | 0.0      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 100.0 |
| 11   | 45.7     | 40.6 | 13.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 16   | 45.7     | 40.6 | 13.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 17   | 45.7     | 40.6 | 13.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 18   | 45.7     | 40.6 | 13.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 21   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 23   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 24   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 25   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 26   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 27   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 28   | 0.0      | 0.0  | 0.0  | 2.0  | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |

B-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

Turning Movement Report  
PM Peak Hour

| Volume Type                                 | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total Volume |
|---|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------------|
|   | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |              |
| #3 Maritime St./ Burma St.                  |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 5          | 590  | 0     | 0          | 109  | 0     | 0         | 0    | 50    | 0         | 0    | 0     | 754          |
| Added                                       | 0          | 362  | 0     | 0          | 230  | 122   | 201       | 0    | 0     | 0         | 0    | 0     | 916          |
| Total                                       | 5          | 952  | 0     | 0          | 339  | 122   | 201       | 0    | 50    | 0         | 0    | 0     | 1670         |
| #4 Maritime St./ 14th St.                   |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 414  | 28    | 105        | 132  | 0     | 0         | 0    | 0     | 92        | 0    | 290   | 1061         |
| Added                                       | 285        | 232  | 0     | 0          | 139  | 92    | 130       | 0    | 374   | 0         | 0    | 0     | 1253         |
| Total                                       | 285        | 646  | 28    | 105        | 271  | 92    | 130       | 0    | 374   | 92        | 0    | 290   | 2314         |
| #5 Maritime St./ 7th St. Extension          |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 36         | 0    | 0     | 0          | 0    | 75    | 223       | 0    | 74    | 0         | 0    | 0     | 408          |
| Added                                       | 236        | 445  | 0     | 0          | 449  | 64    | 73        | 0    | 282   | 0         | 0    | 0     | 1548         |
| Total                                       | 272        | 445  | 0     | 0          | 449  | 139   | 296       | 0    | 356   | 0         | 0    | 0     | 1956         |
| #6 7th St./ 7th St. Extension               |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 31         | 18   | 0     | 0         | 0    | 19    | 0         | 0    | 0     | 68           |
| Added                                       | 47         | 142  | 53    | 498        | 121  | 112   | 173       | 489  | 57    | 40        | 338  | 365   | 2436         |
| Total                                       | 47         | 142  | 53    | 529        | 139  | 112   | 173       | 489  | 76    | 40        | 338  | 365   | 2504         |
| #7 Middle Harbor Rd. / Gate 2               |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 95         | 0    | 229   | 0          | 0    | 0     | 0         | 215  | 131   | 94        | 88   | 0     | 852          |
| Added                                       | 6          | 0    | 304   | 0          | 0    | 0     | 0         | 205  | 2     | 136       | 214  | 0     | 866          |
| PassBy                                      | 76         | 0    | 106   | 0          | 0    | 0     | 0         | 0    | 106   | 159       | 0    | 0     | 447          |
| Total                                       | 177        | 0    | 639   | 0          | 0    | 0     | 0         | 420  | 239   | 389       | 302  | 0     | 2165         |
| #8 Adeline St./ 3rd St.                     |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 36         | 0    | 122   | 43         | 0    | 15    | 30        | 14   | 13    | 89        | 39   | 78    | 479          |
| Added                                       | 0          | 891  | 0     | 0          | 570  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1462         |
| Total                                       | 36         | 891  | 122   | 43         | 570  | 15    | 30        | 14   | 13    | 89        | 39   | 78    | 1941         |
| #9 7th/New Middle Harbor                    |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 1     | 1            |
| Added                                       | 0          | 0    | 127   | 0          | 0    | 0     | 0         | 592  | 0     | 95        | 402  | 0     | 1217         |
| Total                                       | 0          | 0    | 127   | 0          | 0    | 0     | 0         | 592  | 0     | 95        | 402  | 1     | 1218         |
| #10   |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0            |
| Added                                       | 127        | 0    | 0     | 0          | 0    | 0     | 0         | 206  | 95    | 37        | 183  | 0     | 649          |
| Total                                       | 127        | 0    | 0     | 0          | 0    | 0     | 0         | 206  | 95    | 37        | 183  | 0     | 649          |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 23   | 0     | 9          | 23   | 23    | 20        | 454  | 210   | 0         | 624  | 13    | 1399         |
| Added                                       | 435        | 0    | 129   | 0          | 0    | 0     | 0         | 0    | 258   | 95        | 0    | 0     | 916          |
| Total                                       | 435        | 23   | 129   | 9          | 23   | 23    | 20        | 454  | 468   | 95        | 624  | 13    | 2315         |

| B-PM.CMD                                  |            | Tue Nov 5, 1996 12:31:19 |       |            |      |       |           |      |       |           |      | Page 3-2 |        |
|---|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR            |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Minimum Marine/Minimum Rail Alternative   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| PM Peak Hour                              |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Volume                                    | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |          | Total  |
| Type                                      | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right    | Volume |
| #13 Adeline St./ 5th St./ I-880 SB Ramp   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                      | 0          | 0                        | 0     | 241        | 0    | 69    | 138       | 157  | 0     | 0         | 202  | 616      | 1423   |
| Added                                     | 186        | 172                      | 533   | 0          | 102  | 0     | 0         | 0    | 105   | 363       | 0    | 0        | 1462   |
| Total                                     | 186        | 172                      | 533   | 241        | 102  | 69    | 138       | 157  | 105   | 363       | 202  | 616      | 2885   |
| #14 Union St./ 5th St./ I-880 North Ramps |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                      | 0          | 194                      | 281   | 0          | 144  | 30    | 31        | 97   | 18    | 32        | 31   | 34       | 892    |
| Added                                     | 0          | 0                        | 105   | 0          | 0    | 0     | 0         | 0    | 0     | 186       | 0    | 0        | 291    |
| Total                                     | 0          | 194                      | 386   | 0          | 144  | 30    | 31        | 97   | 18    | 218       | 31   | 34       | 1183   |
| #15 7th St./ I-880 NB Ramps/ Frontage Rd. |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                      | 0          | 197                      | 3     | 2          | 0    | 205   | 0         | 108  | 0     | 0         | 53   | 1        | 569    |
| Added                                     | 466        | 0                        | 0     | 0          | 0    | 266   | 378       | 18   | 0     | 0         | 11   | 0        | 1139   |
| Total                                     | 466        | 197                      | 3     | 2          | 0    | 471   | 378       | 126  | 0     | 0         | 64   | 1        | 1708   |
| #16 7th St./ I-880 SB Ramps               |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                      | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 7     | 378       | 0    | 0        | 385    |
| Added                                     | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 396  | 645   | 0         | 742  | 0        | 1783   |
| Total                                     | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 396  | 652   | 378       | 742  | 0        | 2168   |
| #17 14th St./ I-880 Frontage Rd.          |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                      | 0          | 62                       | 130   | 4          | 0    | 0     | 0         | 0    | 0     | 115       | 0    | 7        | 318    |
| Added                                     | 0          | 378                      | 0     | 0          | 266  | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 644    |
| Total                                     | 0          | 440                      | 130   | 4          | 266  | 0     | 0         | 0    | 0     | 115       | 0    | 7        | 962    |
| #18 W.Grand Ave./ I-880 Frontage Rd.      |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                      | 75         | 72                       | 0     | 759        | 0    | 6     | 86        | 277  | 3     | 0         | 456  | 330      | 2064   |
| Added                                     | 0          | 229                      | 149   | 0          | 168  | 0     | 0         | 129  | 0     | 98        | 95   | 0        | 868    |
| Total                                     | 75         | 301                      | 149   | 759        | 168  | 6     | 86        | 406  | 3     | 98        | 551  | 330      | 2932   |
| #134                                      |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                      | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 0      |
| Added                                     | 0          | 0                        | 102   | 0          | 0    | 0     | 0         | 253  | 0     | 122       | 178  | 0        | 654    |
| Total                                     | 0          | 0                        | 102   | 0          | 0    | 0     | 0         | 253  | 0     | 122       | 178  | 0        | 654    |
| #138                                      |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                      | 0          | -168                     | 0     | 0          | -123 | -24   | -20       | 0    | 0     | 0         | 0    | 0        | -335   |
| Added                                     | 0          | 82                       | 0     | 0          | 55   | 36    | 31        | 0    | 0     | 0         | 0    | 0        | 204    |
| Total                                     | 0          | -86                      | 0     | 0          | -68  | 12    | 11        | 0    | 0     | 0         | 0    | 0        | -131   |
| #158                                      |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base                                      | 0          | -259                     | -163  | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -422   |
| Added                                     | 0          | 309                      | 179   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 488    |
| Total                                     | 0          | 50                       | 16    | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 66     |

|   |            |                          |       |            |      |       |           |       |       |           |      |          |        |
|---|------------|--------------------------|-------|------------|------|-------|-----------|-------|-------|-----------|------|----------|--------|
| B-PM.CMD                                |            | Tue Nov 5, 1996 12:31:19 |       |            |      |       |           |       |       |           |      | Page 3-3 |        |
| FISCO/Port Vision 2000 EIS/EIR          |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Minimum Marine/Minimum Rail Alternative |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| PM Peak Hour                            |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Volume                                  | Northbound |                          |       | Southbound |      |       | Eastbound |       |       | Westbound |      |          | Total  |
| Type                                    | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru  | Right | Left      | Thru | Right    | Volume |
| #159                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | -259       | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 0         | -105 | 0        | -364   |
| Added                                   | 309        | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 114  | 0        | 423    |
| Total                                   | 50         | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 9    | 0        | 59     |
| #160                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | -105      | -259 | 0        | -364   |
| Added                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 114       | 309  | 0        | 423    |
| Total                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 9         | 50   | 0        | 59     |
| #161                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | -105 | 0     | 0         | 0     | -150  | 0         | 0    | 0        | -255   |
| Added                                   | 0          | 0                        | 0     | 0          | 114  | 0     | 0         | 0     | 173   | 0         | 0    | 0        | 287    |
| Total                                   | 0          | 0                        | 0     | 0          | 9    | 0     | 0         | 0     | 23    | 0         | 0    | 0        | 32     |
| #165                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | -126 | 0     | 0         | 0     | -534  | 0         | 0    | 0        | -660   |
| Added                                   | 0          | 0                        | 0     | 0          | 105  | 0     | 0         | 0     | 645   | 0         | 0    | 0        | 750    |
| Total                                   | 0          | 0                        | 0     | 0          | -21  | 0     | 0         | 0     | 111   | 0         | 0    | 0        | 90     |
| #170                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | -205                     | -391  | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0        | -596   |
| Added                                   | 0          | 186                      | 466   | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0        | 652    |
| Total                                   | 0          | -19                      | 75    | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0        | 56     |
| #177                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | -214 | 0     | 0         | -163  | 0     | 0         | 0    | 0        | -377   |
| Added                                   | 0          | 0                        | 0     | 0          | 244  | 0     | 0         | 179   | 0     | 0         | 0    | 0        | 422    |
| Total                                   | 0          | 0                        | 0     | 0          | 30   | 0     | 0         | 16    | 0     | 0         | 0    | 0        | 45     |
| #178                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | -323                     | 0     | 0          | 0    | 0     | -116      | -47   | 0     | 0         | 0    | 0        | -486   |
| Added                                   | 0          | 363                      | 0     | 0          | 0    | 0     | 118       | 61    | 0     | 0         | 0    | 0        | 541    |
| Total                                   | 0          | 40                       | 0     | 0          | 0    | 0     | 2         | 14    | 0     | 0         | 0    | 0        | 55     |
| #182                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | -439                     | 0     | 0          | 0    | -297  | 0         | 0     | 0     | 0         | 0    | 0        | -736   |
| Added                                   | 0          | 481                      | 0     | 0          | 0    | 327   | 0         | 0     | 0     | 0         | 0    | 0        | 808    |
| Total                                   | 0          | 42                       | 0     | 0          | 0    | 30    | 0         | 0     | 0     | 0         | 0    | 0        | 72     |
| #201                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | -1043 | 0     | 0         | 0    | 0        | -104   |
| Added                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 1178  | 0     | 0         | 0    | 0        | 1178   |
| Total                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 135   | 0     | 0         | 0    | 0        | 135    |

Table J.7-6 (Continued)

| B-PM.CMD  |            | Tue Nov 5, 1996 12:31:19 |       |            |      |       |           |      |       |           |      | Page 3-4 |        |
|---|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR<br>Minimum Marine/Minimum Rail Alternative<br>PM Peak Hour |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Volume  | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |          | Total  |
| Type  | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right    | Volume |
| #204  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | -375       | -668 | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -1043  |
| Added   | 0          | 0                        | 0     | 415        | 763  | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 1178   |
| Total   | 0          | 0                        | 0     | 40         | 95   | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 135    |
| #207  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -463                     | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | -278     | -741   |
| Added   | 0          | 521                      | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 308      | 829    |
| Total   | 0          | 58                       | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 30       | 88     |
| #214  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -350      | -391 | 0        | -741   |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 363       | 466  | 0        | 829    |
| Total   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 13        | 75   | 0        | 88     |
| #217  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | -19  | 0     | 0         | -47  | 0     | 0         | 0    | 0        | -66    |
| Added   | 0          | 0                        | 0     | 0          | 15   | 0     | 0         | 61   | 0     | 0         | 0    | 0        | 75     |
| Total   | 0          | 0                        | 0     | 0          | -4   | 0     | 0         | 14   | 0     | 0         | 0    | 0        | 9      |
| #218  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -39                      | 0     | 0          | 0    | 0     | -31       | -16  | 0     | 0         | 0    | 0        | -86    |
| Added   | 0          | 33                       | 0     | 0          | 0    | 0     | 42        | 18   | 0     | 0         | 0    | 0        | 93     |
| Total   | 0          | -6                       | 0     | 0          | 0    | 0     | 11        | 2    | 0     | 0         | 0    | 0        | 7      |
| #219  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -70                      | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -5   | 0        | -75    |
| Added   | 0          | 75                       | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 5    | 0        | 80     |
| Total   | 0          | 5                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 5      |
| #220  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | -19  | -18   | 0         | 0    | 0     | 0         | -5   | 0        | -42    |
| Added   | 0          | 0                        | 0     | 0          | 15   | 25    | 0         | 0    | 0     | 0         | 5    | 0        | 46     |
| Total   | 0          | 0                        | 0     | 0          | -4   | 7     | 0         | 0    | 0     | 0         | 0    | 0        | 4      |
| #225  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -278 | -5       | -283   |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 308  | 5        | 314    |
| Total   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 30   | 0        | 31     |
| #226  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | -16        | 0    | 0     | 0         | -375 | 0     | 0         | 0    | 0        | -391   |
| Added   | 0          | 0                        | 0     | 18         | 0    | 0     | 0         | 415  | 0     | 0         | 0    | 0        | 433    |
| Total   | 0          | 0                        | 0     | 2          | 0    | 0     | 0         | 40   | 0     | 0         | 0    | 0        | 42     |

|   |            |      |       |                          |      |       |           |      |       |           |      |       |       |          |       |        |  |
|---|------------|------|-------|--------------------------|------|-------|-----------|------|-------|-----------|------|-------|-------|----------|-------|--------|--|
| B-PM.CMD                                |            |      |       | Tue Nov 5, 1996 12:31:19 |      |       |           |      |       |           |      |       |       | Page 3-5 |       |        |  |
| -----                                   |            |      |       |                          |      |       |           |      |       |           |      |       |       |          |       |        |  |
| FISCO/Port Vision 2000 EIS/EIR          |            |      |       |                          |      |       |           |      |       |           |      |       |       |          |       |        |  |
| Minimum Marine/Minimum Rail Alternative |            |      |       |                          |      |       |           |      |       |           |      |       |       |          |       |        |  |
| PM Peak Hour                            |            |      |       |                          |      |       |           |      |       |           |      |       |       |          |       |        |  |
| -----                                   |            |      |       |                          |      |       |           |      |       |           |      |       |       |          |       |        |  |
| Volume                                  | Northbound |      |       | Southbound               |      |       | Eastbound |      |       | Westbound |      |       | Total |          |       |        |  |
| Type                                    | Left       | Thru | Right | Left                     | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Left  | Thru     | Right | Volume |  |
| -----                                   |            |      |       |                          |      |       |           |      |       |           |      |       |       |          |       |        |  |
| #244                                    |            |      |       |                          |      |       |           |      |       |           |      |       |       |          |       |        |  |
| Base                                    | 0          | 0    | 0     | 0                        | 0    | -302  | -226      | -44  | 0     | 0         | -37  | 0     | 0     | 0        | 0     | -609   |  |
| Added                                   | 0          | 0    | 0     | 0                        | 0    | 226   | 159       | 108  | 0     | 0         | 91   | 0     | 0     | 0        | 0     | 584    |  |
| Total                                   | 0          | 0    | 0     | 0                        | 0    | -76   | -67       | 64   | 0     | 0         | 54   | 0     | 0     | 0        | 0     | -25    |  |

|   |         |                          |       |         |      |       |         |      |       |         |      |          |        |
|---|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|------|----------|--------|
| B-PM.CMD                                    |         | Tue Nov 5, 1996 12:31:19 |       |         |      |       |         |      |       |         |      | Page 4-1 |        |
| FISCO/Port Vision 2000 EIS/EIR              |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Minimum Marine/Minimum Rail Alternative     |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| PM Peak Hour                                |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Link Volume Report                          |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| PM Peak Hour                                |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Volume                                      | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |      |          | Total  |
| Type  | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total    | Volume |
| #3 Maritime St./ Burma St.                  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 595     | 159                      | 754   | 109     | 590  | 699   | 50      | 5    | 55    | 0       | 0    | 0        | 1508   |
| Added                                       | 362     | 230                      | 593   | 352     | 564  | 916   | 201     | 122  | 323   | 0       | 0    | 0        | 1833   |
| Total                                       | 957     | 389                      | 1347  | 461     | 1154 | 1615  | 251     | 127  | 378   | 0       | 0    | 0        | 3341   |
| #4 Maritime St./ 14th St.                   |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 442     | 224                      | 666   | 237     | 704  | 941   | 0       | 0    | 0     | 382     | 133  | 515      | 2122   |
| Added                                       | 517     | 513                      | 1031  | 230     | 362  | 593   | 505     | 377  | 882   | 0       | 0    | 0        | 2505   |
| Total                                       | 959     | 737                      | 1697  | 467     | 1066 | 1534  | 505     | 377  | 882   | 382     | 133  | 515      | 4627   |
| #5 Maritime St./ 7th St. Extension          |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 36      | 74                       | 110   | 75      | 223  | 298   | 297     | 111  | 408   | 0       | 0    | 0        | 816    |
| Added                                       | 680     | 731                      | 1411  | 513     | 517  | 1031  | 355     | 300  | 654   | 0       | 0    | 0        | 3097   |
| Total                                       | 716     | 805                      | 1521  | 588     | 740  | 1329  | 652     | 411  | 1062  | 0       | 0    | 0        | 3913   |
| #6 7th St./ 7th St. Extension               |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | 37                       | 37    | 49      | 0    | 49    | 19      | 0    | 19    | 0       | 31   | 31       | 136    |
| Added                                       | 243     | 217                      | 460   | 731     | 680  | 1411  | 719     | 497  | 1217  | 742     | 1041 | 1783     | 4872   |
| Total                                       | 243     | 254                      | 497   | 780     | 680  | 1460  | 738     | 497  | 1236  | 742     | 1072 | 1814     | 5008   |
| #7 Middle Harbor Rd. / Gate 2               |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 324     | 225                      | 549   | 0       | 0    | 0     | 346     | 183  | 529   | 182     | 444  | 626      | 1704   |
| Added                                       | 310     | 138                      | 447   | 0       | 0    | 0     | 206     | 220  | 426   | 350     | 508  | 858      | 1731   |
| Total                                       | 634     | 363                      | 996   | 0       | 0    | 0     | 552     | 403  | 955   | 532     | 952  | 1484     | 3435   |
| #8 Adeline St./ 3rd St.                     |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 158     | 102                      | 260   | 58      | 108  | 166   | 57      | 90   | 147   | 206     | 179  | 385      | 958    |
| Added                                       | 891     | 570                      | 1462  | 570     | 891  | 1462  | 0       | 0    | 0     | 0       | 0    | 0        | 2923   |
| Total                                       | 1049    | 672                      | 1722  | 628     | 999  | 1628  | 57      | 90   | 147   | 206     | 179  | 385      | 3881   |
| #9 7th/New Middle Harbor                    |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | 0                        | 0     | 0       | 1    | 1     | 0       | 0    | 0     | 1       | 0    | 1        | 2      |
| Added                                       | 127     | 95                       | 223   | 0       | 0    | 0     | 592     | 402  | 994   | 497     | 719  | 1217     | 2434   |
| Total                                       | 127     | 95                       | 223   | 0       | 1    | 1     | 592     | 402  | 994   | 498     | 719  | 1218     | 2436   |
| #10   |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0        | 0      |
| Added                                       | 127     | 132                      | 260   | 0       | 0    | 0     | 302     | 310  | 612   | 220     | 206  | 426      | 1298   |
| Total                                       | 127     | 132                      | 260   | 0       | 0    | 0     | 302     | 310  | 612   | 220     | 206  | 426      | 1298   |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 23      | 233                      | 256   | 55      | 56   | 111   | 684     | 647  | 1331  | 637     | 463  | 1100     | 2798   |
| Added                                       | 564     | 352                      | 916   | 0       | 0    | 0     | 258     | 435  | 693   | 95      | 129  | 224      | 1833   |
| Total                                       | 587     | 585                      | 1172  | 55      | 56   | 111   | 942     | 1082 | 2024  | 732     | 592  | 1324     | 4631   |

|  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
|--|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|------|----------|--------|
| B-PM.CMD                                   |         | Tue Nov 5, 1996 12:31:19 |       |         |      |       |         |      |       |         |      | Page 4-2 |        |
| FISCO/Port Vision 2000 EIS/EIR             |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Minimum Marine/Minimum Rail Alternative    |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| PM Peak Hour                               |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Volume                                     | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |      |          | Total  |
| Type                                       | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total    | Volume |
| #13 Adeline St./ 5th St./ I-880 SB Ramp    |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 0       | 0                        | 0     | 310     | 754  | 1064  | 295     | 271  | 566   | 818     | 398  | 1216     | 2846   |
| Added                                      | 891     | 570                      | 1462  | 102     | 172  | 274   | 105     | 186  | 291   | 363     | 533  | 897      | 2923   |
| Total                                      | 891     | 570                      | 1462  | 412     | 926  | 1338  | 400     | 457  | 857   | 1181    | 931  | 2113     | 5769   |
| #14 Union St./ 5th St./ I-880 North Ramps  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 475     | 194                      | 669   | 174     | 259  | 433   | 146     | 61   | 207   | 97      | 378  | 475      | 1784   |
| Added                                      | 105     | 186                      | 291   | 0       | 0    | 0     | 0       | 0    | 0     | 186     | 105  | 291      | 582    |
| Total                                      | 580     | 380                      | 960   | 174     | 259  | 433   | 146     | 61   | 207   | 283     | 483  | 766      | 2366   |
| #15 7th St./ I-880 NB Ramps / Frontage Rd. |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 200     | 0                        | 200   | 207     | 198  | 405   | 108     | 258  | 366   | 54      | 113  | 167      | 1138   |
| Added                                      | 466     | 0                        | 466   | 266     | 378  | 644   | 396     | 742  | 1139  | 11      | 18   | 29       | 2277   |
| Total                                      | 666     | 0                        | 666   | 473     | 576  | 1049  | 504     | 1000 | 1505  | 65      | 131  | 196      | 3415   |
| #16 7th St./ I-880 SB Ramps                |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 0       | 385                      | 385   | 0       | 0    | 0     | 7       | 0    | 7     | 378     | 0    | 378      | 770    |
| Added                                      | 0       | 645                      | 645   | 0       | 0    | 0     | 1041    | 742  | 1783  | 742     | 396  | 1139     | 3566   |
| Total                                      | 0       | 1030                     | 1030  | 0       | 0    | 0     | 1048    | 742  | 1790  | 1120    | 396  | 1517     | 4336   |
| #17 14th St./ I-880 Frontage Rd.           |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 192     | 115                      | 307   | 4       | 69   | 73    | 0       | 0    | 0     | 122     | 134  | 256      | 636    |
| Added                                      | 378     | 266                      | 644   | 266     | 378  | 644   | 0       | 0    | 0     | 0       | 0    | 0        | 1288   |
| Total                                      | 570     | 381                      | 951   | 270     | 447  | 717   | 0       | 0    | 0     | 122     | 134  | 256      | 1924   |
| #18 W.Grand Ave./ I-880 Frontage Rd.       |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 147     | 3                        | 150   | 765     | 488  | 1253  | 366     | 537  | 903   | 786     | 1036 | 1822     | 4128   |
| Added                                      | 378     | 266                      | 644   | 168     | 229  | 397   | 129     | 95   | 224   | 193     | 278  | 470      | 1735   |
| Total                                      | 525     | 269                      | 794   | 933     | 717  | 1650  | 495     | 632  | 1127  | 979     | 1314 | 2292     | 5863   |
| #134                                       |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0        | 0      |
| Added                                      | 102     | 122                      | 223   | 0       | 0    | 0     | 253     | 178  | 431   | 300     | 355  | 654      | 1309   |
| Total                                      | 102     | 122                      | 223   | 0       | 0    | 0     | 253     | 178  | 431   | 300     | 355  | 654      | 1309   |
| #138                                       |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | -168    | -123                     | -291  | -147    | -188 | -335  | -20     | -24  | -44   | 0       | 0    | 0        | -670   |
| Added                                      | 82      | 55                       | 137   | 91      | 113  | 204   | 31      | 36   | 67    | 0       | 0    | 0        | 408    |
| Total                                      | -86     | -68                      | -154  | -56     | -75  | -131  | 11      | 12   | 23    | 0       | 0    | 0        | -262   |
| #158                                       |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base                                       | -422    | 0                        | -422  | 0       | -259 | -259  | 0       | 0    | 0     | 0       | -163 | -163     | -844   |
| Added                                      | 488     | 0                        | 488   | 0       | 309  | 309   | 0       | 0    | 0     | 0       | 179  | 179      | 975    |
| Total                                      | 66      | 0                        | 66    | 0       | 50   | 50    | 0       | 0    | 0     | 0       | 16   | 16       | 131    |



Table J.7-6 (Continued)

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|---|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|-------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR<br>Minimum Marine/Minimum Rail Alternative<br>PM Peak Hour |         |                          |       |         |      |       |         |      |       |         |       |          |        |
| Volume  | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |       |          | Total  |
| Type  | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out   | Total    | Volume |
| #159  |         |                          |       |         |      |       |         |      |       |         |       |          |        |
| Base  | -259    | 0                        | -259  | 0       | 0    | 0     | 0       | -364 | -364  | -105    | 0     | -105     | -728   |
| Added   | 309     | 0                        | 309   | 0       | 0    | 0     | 0       | 423  | 423   | 114     | 0     | 114      | 846    |
| Total   | 50      | 0                        | 50    | 0       | 0    | 0     | 0       | 59   | 59    | 9       | 0     | 9        | 118    |
| #160  |         |                          |       |         |      |       |         |      |       |         |       |          |        |
| Base  | 0       | -105                     | -105  | 0       | 0    | 0     | 0       | -259 | -259  | -364    | 0     | -364     | -728   |
| Added   | 0       | 114                      | 114   | 0       | 0    | 0     | 0       | 309  | 309   | 423     | 0     | 423      | 846    |
| Total   | 0       | 9                        | 9     | 0       | 0    | 0     | 0       | 50   | 50    | 59      | 0     | 59       | 118    |
| #161  |         |                          |       |         |      |       |         |      |       |         |       |          |        |
| Base  | 0       | -255                     | -255  | -105    | 0    | -105  | -150    | 0    | -150  | 0       | 0     | 0        | -510   |
| Added   | 0       | 287                      | 287   | 114     | 0    | 114   | 173     | 0    | 173   | 0       | 0     | 0        | 573    |
| Total   | 0       | 32                       | 32    | 9       | 0    | 9     | 23      | 0    | 23    | 0       | 0     | 0        | 63     |
| #165  |         |                          |       |         |      |       |         |      |       |         |       |          |        |
| Base  | 0       | -660                     | -660  | -126    | 0    | -126  | -534    | 0    | -534  | 0       | 0     | 0        | -1320  |
| Added   | 0       | 750                      | 750   | 105     | 0    | 105   | 645     | 0    | 645   | 0       | 0     | 0        | 1499   |
| Total   | 0       | 90                       | 90    | -21     | 0    | -21   | 111     | 0    | 111   | 0       | 0     | 0        | 179    |
| #170  |         |                          |       |         |      |       |         |      |       |         |       |          |        |
| Base  | -596    | 0                        | -596  | 0       | -205 | -205  | 0       | 0    | 0     | 0       | -391  | -391     | -1192  |
| Added   | 652     | 0                        | 652   | 0       | 186  | 186   | 0       | 0    | 0     | 0       | 466   | 466      | 1304   |
| Total   | 56      | 0                        | 56    | 0       | -19  | -19   | 0       | 0    | 0     | 0       | 75    | 75       | 112    |
| #177  |         |                          |       |         |      |       |         |      |       |         |       |          |        |
| Base  | 0       | -214                     | -214  | -214    | 0    | -214  | -163    | 0    | -163  | 0       | -163  | -163     | -754   |
| Added   | 0       | 244                      | 244   | 244     | 0    | 244   | 179     | 0    | 179   | 0       | 179   | 179      | 845    |
| Total   | 0       | 30                       | 30    | 30      | 0    | 30    | 16      | 0    | 16    | 0       | 16    | 16       | 91     |
| #178  |         |                          |       |         |      |       |         |      |       |         |       |          |        |
| Base  | -323    | 0                        | -323  | 0       | -439 | -439  | -163    | 0    | -163  | 0       | -47   | -47      | -972   |
| Added   | 363     | 0                        | 363   | 0       | 481  | 481   | 179     | 0    | 179   | 0       | 61    | 61       | 1083   |
| Total   | 40      | 0                        | 40    | 0       | 42   | 42    | 16      | 0    | 16    | 0       | 14    | 14       | 111    |
| #182  |         |                          |       |         |      |       |         |      |       |         |       |          |        |
| Base  | -439    | 0                        | -439  | -297    | -439 | -736  | 0       | -297 | -297  | 0       | 0     | 0        | -1472  |
| Added   | 481     | 0                        | 481   | 327     | 481  | 808   | 0       | 327  | 327   | 0       | 0     | 0        | 1615   |
| Total   | 42      | 0                        | 42    | 30      | 42   | 72    | 0       | 30   | 30    | 0       | 0     | 0        | 143    |
| #201  |         |                          |       |         |      |       |         |      |       |         |       |          |        |
| Base  | 0       | 0                        | 0     | 0       | 0    | 0     | -1043   | 0    | -1043 | 0       | -1043 | -1043    | -208   |
| Added   | 0       | 0                        | 0     | 0       | 0    | 0     | 1178    | 0    | 1178  | 0       | 1178  | 1178     | 2356   |
| Total   | 0       | 0                        | 0     | 0       | 0    | 0     | 135     | 0    | 135   | 0       | 135   | 135      | 270    |

| B-PM.CMD  |         | Tue Nov 5, 1996 12:31:19 |       |         |      |       |         |      |       |         |      | Page 4-4 |        |
|---|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR<br>Minimum Marine/Minimum Rail Alternative<br>PM Peak Hour |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Volume  | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |      |          | Total  |
| Type  | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total    | Volume |
| #204  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | -668                     | -668  | -1043   | 0    | -1043 | 0       | 0    | 0     | 0       | -375 | -375     | -2086  |
| Added   | 0       | 763                      | 763   | 1178    | 0    | 1178  | 0       | 0    | 0     | 0       | 415  | 415      | 2356   |
| Total   | 0       | 95                       | 95    | 135     | 0    | 135   | 0       | 0    | 0     | 0       | 40   | 40       | 270    |
| #207  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | -463    | 0                        | -463  | 0       | -741 | -741  | 0       | 0    | 0     | -278    | 0    | -278     | -1482  |
| Added   | 521     | 0                        | 521   | 0       | 829  | 829   | 0       | 0    | 0     | 308     | 0    | 308      | 1659   |
| Total   | 58      | 0                        | 58    | 0       | 88   | 88    | 0       | 0    | 0     | 30      | 0    | 30       | 177    |
| #214  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | -350                     | -350  | 0       | 0    | 0     | 0       | -391 | -391  | -741    | 0    | -741     | -1482  |
| Added   | 0       | 363                      | 363   | 0       | 0    | 0     | 0       | 466  | 466   | 829     | 0    | 829      | 1659   |
| Total   | 0       | 13                       | 13    | 0       | 0    | 0     | 0       | 75   | 75    | 88      | 0    | 88       | 177    |
| #217  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | -19                      | -19   | -19     | 0    | -19   | -47     | 0    | -47   | 0       | -47  | -47      | -132   |
| Added   | 0       | 15                       | 15    | 15      | 0    | 15    | 61      | 0    | 61    | 0       | 61   | 61       | 151    |
| Total   | 0       | -4                       | -4    | -4      | 0    | -4    | 14      | 0    | 14    | 0       | 14   | 14       | 19     |
| #218  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | -39     | 0                        | -39   | 0       | -70  | -70   | -47     | 0    | -47   | 0       | -16  | -16      | -172   |
| Added   | 33      | 0                        | 33    | 0       | 75   | 75    | 61      | 0    | 61    | 0       | 18   | 18       | 187    |
| Total   | -6      | 0                        | -6    | 0       | 5    | 5     | 14      | 0    | 14    | 0       | 2    | 2        | 15     |
| #219  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | -70     | 0                        | -70   | 0       | -70  | -70   | 0       | -5   | -5    | -5      | 0    | -5       | -150   |
| Added   | 75      | 0                        | 75    | 0       | 75   | 75    | 0       | 5    | 5     | 5       | 0    | 5        | 161    |
| Total   | 5       | 0                        | 5     | 0       | 5    | 5     | 0       | 0    | 0     | 0       | 0    | 0        | 11     |
| #220  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | -19                      | -19   | -37     | 0    | -37   | 0       | -23  | -23   | -5      | 0    | -5       | -84    |
| Added   | 0       | 15                       | 15    | 40      | 0    | 40    | 0       | 31   | 31    | 5       | 0    | 5        | 91     |
| Total   | 0       | -4                       | -4    | 3       | 0    | 3     | 0       | 8    | 8     | 0       | 0    | 0        | 7      |
| #225  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | 0                        | 0     | 0       | -5   | -5    | 0       | -278 | -278  | -283    | 0    | -283     | -566   |
| Added   | 0       | 0                        | 0     | 0       | 5    | 5     | 0       | 308  | 308   | 314     | 0    | 314      | 627    |
| Total   | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | 30   | 30    | 31      | 0    | 31       | 61     |
| #226  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | 0                        | 0     | -16     | 0    | -16   | -375    | 0    | -375  | 0       | -391 | -391     | -782   |
| Added   | 0       | 0                        | 0     | 18      | 0    | 18    | 415     | 0    | 415   | 0       | 433  | 433      | 866    |
| Total   | 0       | 0                        | 0     | 2       | 0    | 2     | 40      | 0    | 40    | 0       | 42   | 42       | 84     |

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FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

| Volume<br>Type | NB Link |     |       | SB Link |      |       | EB Link |      |       | WB Link |     |       | Total<br>Volume |
|----------------|---------|-----|-------|---------|------|-------|---------|------|-------|---------|-----|-------|-----------------|
|                | In      | Out | Total | In      | Out  | Total | In      | Out  | Total | In      | Out | Total |                 |
| #244           |         |     |       |         |      |       |         |      |       |         |     |       |                 |
| Base           | 0       | 0   | 0     | -302    | -226 | -528  | -270    | -339 | -609  | -37     | -44 | -81   | -1218           |
| Added          | 0       | 0   | 0     | 226     | 159  | 385   | 267     | 317  | 584   | 91      | 108 | 199   | 1167            |
| Total          | 0       | 0   | 0     | -76     | -67  | -143  | -3      | -22  | -25   | 54      | 64  | 118   | -51             |

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FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

| Impact Analysis Report<br>Level Of Service |                                |  |      |             |         |        |             |         |              |        |     |
|--|--------------------------------|--|------|-------------|---------|--------|-------------|---------|--------------|--------|-----|
| Intersection                               |                                |  | Base |             |         | Future |             |         | Change<br>in |        |     |
|  |                                |  | LOS  | Del/<br>Veh | V/<br>C | LOS    | Del/<br>Veh | V/<br>C |              |        |     |
| # 3  | Maritime St./ Burma St.        |  | B    | 7.2         | 0.211   | B      | 10.0        | 0.320   | +            | 2.848  | D/V |
| # 4  | Maritime St./ 14th St.         |  | C    | 15.9        | 0.392   | C      | 22.3        | 0.831   | +            | 6.369  | D/V |
| # 5  | Maritime St./ 7th St. Extensio |  | B    | 5.8         | 0.080   | B      | 12.0        | 0.375   | +            | 6.247  | D/V |
| # 6  | 7th St./ 7th St. Extension     |  | B    | 5.8         | 0.018   | C      | 20.1        | 0.585   | +            | 14.262 | D/V |
| # 7  | Middle Harbor Rd. / Gate 2     |  | B    | 13.5        | 0.296   | C      | 20.6        | 0.803   | +            | 7.150  | D/V |
| # 8  | Adeline St./ 3rd St.           |  | C    | 20.4        | 0.084   | E      | 46.7        | 0.618   | +            | 26.342 | D/V |
| # 9  | 7th/New Middle Harbor          |  | C    | 15.8        | 0.000   | B      | 9.7         | 0.321   | -            | 6.172  | D/V |
| # 12                                       | Maritime St./ W.Grand Ave./ I- |  | B    | 12.4        | 0.237   | C      | 19.0        | 0.440   | +            | 6.603  | D/V |
| # 13                                       | Adeline St./ 5th St./ I-880 SB |  | C    | 17.6        | 0.328   | C      | 21.0        | 0.577   | +            | 3.404  | D/V |
| # 14                                       | Union St./ 5th St./ I-880 Nort |  | B    | 12.5        | 0.178   | C      | 16.2        | 0.205   | +            | 3.749  | D/V |
| # 15                                       | 7th St./ I-880 NB Ramps / Fron |  | B    | 11.5        | 0.135   | C      | 18.1        | 0.400   | +            | 6.671  | D/V |
| # 16                                       | 7th St./ I-880 SB Ramps        |  | A    | 2.6         | 0.113   | B      | 5.7         | 0.538   | +            | 3.109  | D/V |
| # 17                                       | 14th St./ I-880 Frontage Rd.   |  | A    | 1.9         | 0.000   | C      | 2.2         | 0.000   | +            | 0.000  | V/C |
| # 18                                       | W.Grand Ave./ I-880 Frontage R |  | C    | 21.1        | 0.505   | C      | 21.9        | 0.652   | +            | 0.828  | D/V |

Table J.7-6 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM operations Method (Future Volume Alternative)

Intersection #3 Maritime St./ Burma St.

|                  |                 |                          |       |
|------------------|-----------------|--------------------------|-------|
| Cycle (sec):     | 100             | Critical Vol./Cap. (X):  | 0.320 |
| Loss Time (sec): | 8 (Y+R = 4 sec) | Average Delay (sec/veh): | 10.0  |
| Optimal Cycle:   | 58              | Level Of Service:        | B     |

|             |             |    |    |    |   |             |    |    |    |   |            |    |    |    |   |            |   |   |   |  |
|-------------|-------------|----|----|----|---|-------------|----|----|----|---|------------|----|----|----|---|------------|---|---|---|--|
| Approach:   | North Bound |    |    |    |   | South Bound |    |    |    |   | East Bound |    |    |    |   | West Bound |   |   |   |  |
| Movement:   | L - T - R   |    |    |    |   | L - T - R   |    |    |    |   | L - T - R  |    |    |    |   | L - T - R  |   |   |   |  |
| Control:    | Protected   |    |    |    |   | Protected   |    |    |    |   | Protected  |    |    |    |   | Protected  |   |   |   |  |
| Rights:     | Include     |    |    |    |   | Include     |    |    |    |   | Include    |    |    |    |   | Include    |   |   |   |  |
| Min. Green: | 10          | 20 | 20 | 20 |   | 10          | 20 | 20 | 20 |   | 10         | 20 | 20 | 20 |   | 0          | 0 | 0 | 0 |  |
| Lanes:      | 1           | 0  | 1  | 1  | 0 | 1           | 0  | 1  | 1  | 0 | 1          | 0  | 0  | 1  | 0 | 0          | 0 | 0 | 0 |  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 5    | 590  | 0    | 0    | 109  | 0    | 0    | 0    | 50   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 5    | 590  | 0    | 0    | 109  | 0    | 0    | 0    | 50   | 0    | 0    | 0    |
| Added Vol:   | 0    | 362  | 0    | 0    | 230  | 122  | 201  | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 5    | 952  | 0    | 0    | 339  | 122  | 201  | 0    | 50   | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 5    | 952  | 0    | 0    | 339  | 122  | 201  | 0    | 50   | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 5    | 952  | 0    | 0    | 339  | 122  | 201  | 0    | 50   | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 5    | 1000 | 0    | 0    | 356  | 128  | 201  | 0    | 50   | 0    | 0    | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 1.00 | 0.96 | 0.96 | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 2.00 | 0.00 | 1.00 | 1.47 | 0.53 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Final Sat.: | 1805 | 3800 | 0    | 1900 | 2683 | 965  | 1805 | 0    | 1615 | 0    | 0    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.26 | 0.00 | 0.00 | 0.13 | 0.13 | 0.11 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      |      |      | **** |      |      |      |
| Green/Cycle: | 0.24 | 0.62 | 0.00 | 0.00 | 0.48 | 0.48 | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.01 | 0.42 | 0.00 | 0.00 | 0.28 | 0.28 | 0.56 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 18.7 | 6.4  | 0.0  | 0.0  | 10.1 | 10.1 | 24.7 | 0.0  | 21.4 | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 18.7 | 6.4  | 0.0  | 0.0  | 10.1 | 10.1 | 24.7 | 0.0  | 21.4 | 0.0  | 0.0  | 0.0  |
| Queue:       | 0    | 14   | 0    | 0    | 6    | 2    | 5    | 0    | 1    | 0    | 0    | 0    |

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FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #4 Maritime St./ 14th St:

|                  |                 |                          |       |
|------------------|-----------------|--------------------------|-------|
| Cycle (sec):     | 100             | Critical Vol./Cap. (X):  | 0.831 |
| Loss Time (sec): | 8 (Y+R = 4 sec) | Average Delay (sec/veh): | 22.3  |
| Optimal Cycle:   | 73              | Level Of Service:        | C     |

| Approach:   | North Bound |   |    |    | South Bound |   |    |    | East Bound |   |    |    | West Bound |   |    |    |   |
|-------------|-------------|---|----|----|-------------|---|----|----|------------|---|----|----|------------|---|----|----|---|
| Movement:   | L           | - | T  | R  | L           | - | T  | R  | L          | - | T  | R  | L          | - | T  | R  |   |
| Control:    | Protected   |   |    |    | Protected   |   |    |    | Permitted  |   |    |    | Permitted  |   |    |    |   |
| Rights:     | Include     |   |    |    | Include     |   |    |    | Ovl        |   |    |    | Include    |   |    |    |   |
| Min. Green: | 10          |   | 20 | 20 | 10          |   | 20 | 20 | 10         |   | 20 | 20 | 10         |   | 20 | 20 |   |
| Lanes:      | 1           | 0 | 1  | 1  | 0           | 1 | 0  | 1  | 1          | 0 | 0  | 0  | 1          | 0 | 0  | 1  | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 414  | 28   | 105  | 132  | 0    | 0    | 0    | 0    | 92   | 0    | 290  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 414  | 28   | 105  | 132  | 0    | 0    | 0    | 0    | 92   | 0    | 290  |
| Added Vol:   | 285  | 232  | 0    | 0    | 139  | 92   | 130  | 0    | 374  | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 285  | 646  | 28   | 105  | 271  | 92   | 130  | 0    | 374  | 92   | 0    | 290  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 285  | 646  | 28   | 105  | 271  | 92   | 130  | 0    | 374  | 92   | 0    | 290  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 285  | 646  | 28   | 105  | 271  | 92   | 130  | 0    | 374  | 92   | 0    | 290  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 285  | 678  | 29   | 105  | 284  | 96   | 130  | 0    | 374  | 92   | 0    | 290  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.99 | 0.99 | 0.95 | 0.96 | 0.96 | 0.53 | 1.00 | 0.53 | 0.37 | 1.00 | 0.85 |
| Lanes:      | 1.00 | 1.92 | 0.08 | 1.00 | 1.49 | 0.51 | 0.26 | 0.00 | 0.74 | 1.00 | 0.00 | 1.00 |
| Final Sat.: | 1805 | 3608 | 154  | 1805 | 2726 | 922  | 259  | 0    | 744  | 703  | 0    | 1615 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.16 | 0.19 | 0.19 | 0.06 | 0.10 | 0.10 | 0.50 | 0.00 | 0.50 | 0.13 | 0.00 | 0.18 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.17 | 0.25 | 0.25 | 0.12 | 0.20 | 0.20 | 0.55 | 0.00 | 0.72 | 0.55 | 0.00 | 0.55 |
| Volume/Cap:  | 0.92 | 0.76 | 0.76 | 0.47 | 0.52 | 0.52 | 0.92 | 0.00 | 0.70 | 0.24 | 0.00 | 0.33 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 48.1 | 25.0 | 25.0 | 27.5 | 23.6 | 23.6 | 27.9 | 0.0  | 7.2  | 7.7  | 0.0  | 8.1  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 48.1 | 25.0 | 25.0 | 27.5 | 23.6 | 23.6 | 27.9 | 0.0  | 7.2  | 7.7  | 0.0  | 8.1  |
| Queue:       | 10   | 18   | 1    | 3    | 7    | 3    | 5    | 0    | 6    | 1    | 0    | 4    |

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FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.375  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 12.0  
Optimal Cycle: 48 Level Of Service: B

| Approach:   | North Bound |    |   | South Bound |    |    | East Bound |   |    | West Bound |   |   |
|-------------|-------------|----|---|-------------|----|----|------------|---|----|------------|---|---|
| Movement:   | L           | T  | R | L           | T  | R  | L          | T | R  | L          | T | R |
| Control:    | Protected   |    |   | Protected   |    |    | Protected  |   |    | Protected  |   |   |
| Rights:     | Include     |    |   | Ovl         |    |    | Ovl        |   |    | Include    |   |   |
| Min. Green: | 10          | 20 | 0 | 0           | 20 | 20 | 10         | 0 | 20 | 0          | 0 | 0 |
| Lanes:      | 2           | 0  | 2 | 0           | 0  | 1  | 2          | 0 | 0  | 0          | 0 | 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 36   | 0    | 0    | 0    | 0    | 75   | 223  | 0    | 74   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 36   | 0    | 0    | 0    | 0    | 75   | 223  | 0    | 74   | 0    | 0    | 0    |
| Added Vol:   | 236  | 445  | 0    | 0    | 449  | 64   | 73   | 0    | 282  | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 272  | 445  | 0    | 0    | 449  | 139  | 296  | 0    | 356  | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 272  | 445  | 0    | 0    | 449  | 139  | 296  | 0    | 356  | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 272  | 445  | 0    | 0    | 449  | 139  | 296  | 0    | 356  | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.05 | 1.00 | 1.00 | 1.05 | 1.00 | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 280  | 467  | 0    | 0    | 472  | 139  | 305  | 0    | 356  | 0    | 0    | 0    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 3610 | 3800 | 0    | 0    | 3800 | 1615 | 3610 | 0    | 1615 | 0    | 0    | 0    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.08 | 0.12 | 0.00 | 0.00 | 0.12 | 0.09 | 0.08 | 0.00 | 0.22 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      |      |      | **** |      |      |      |
| Green/Cycle: | 0.22 | 0.58 | 0.00 | 0.00 | 0.35 | 0.70 | 0.34 | 0.00 | 0.57 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.35 | 0.21 | 0.00 | 0.00 | 0.35 | 0.12 | 0.25 | 0.00 | 0.39 | 0.00 | 0.00 | 0.00 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 21.3 | 6.6  | 0.0  | 0.0  | 15.4 | 3.2  | 15.2 | 0.0  | 8.0  | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 21.3 | 6.6  | 0.0  | 0.0  | 15.4 | 3.2  | 15.2 | 0.0  | 8.0  | 0.0  | 0.0  | 0.0  |
| Queue:       | 7    | 6    | 0    | 0    | 10   | 1    | 6    | 0    | 6    | 0    | 0    | 0    |

B-PM.CMD

Tue Nov 5, 1996 12:31:20

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FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.585  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 20.1  
Optimal Cycle: 68 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Ovl        |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 0          | 20 | 20 |
| Lanes:      | 1           | 0  | 1  | 1           | 0  | 1  | 1          | 0  | 1  | 0          | 2  | 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 31   | 18   | 0    | 0    | 0    | 19   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 31   | 18   | 0    | 0    | 0    | 19   | 0    | 0    | 0    |
| Added Vol:   | 47   | 142  | 53   | 498  | 121  | 112  | 173  | 489  | 57   | 40   | 338  | 365  |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 47   | 142  | 53   | 529  | 139  | 112  | 173  | 489  | 76   | 40   | 338  | 365  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 47   | 142  | 53   | 529  | 139  | 112  | 173  | 489  | 76   | 40   | 338  | 365  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 47   | 142  | 53   | 529  | 139  | 112  | 173  | 489  | 76   | 40   | 338  | 365  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.10 | 1.10 | 1.00 | 1.05 | 1.00 |
| Final Vol.:  | 47   | 149  | 56   | 529  | 146  | 118  | 173  | 538  | 83   | 40   | 355  | 365  |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.96 | 0.96 | 0.95 | 0.93 | 0.93 | 0.95 | 0.98 | 0.98 | 0.95 | 1.00 | 0.85 |
| Lanes:      | 1.00 | 1.45 | 0.55 | 1.00 | 1.11 | 0.89 | 1.00 | 2.60 | 0.40 | 1.00 | 2.00 | 1.00 |
| Final Sat.: | 1805 | 2651 | 997  | 1805 | 1954 | 1580 | 1805 | 4839 | 747  | 1805 | 3800 | 1615 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.03 | 0.06 | 0.06 | 0.29 | 0.07 | 0.07 | 0.10 | 0.11 | 0.11 | 0.02 | 0.09 | 0.23 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      | **** |      |
| Green/Cycle: | 0.20 | 0.20 | 0.20 | 0.39 | 0.39 | 0.39 | 0.13 | 0.20 | 0.20 | 0.13 | 0.20 | 0.59 |
| Volume/Cap:  | 0.13 | 0.28 | 0.28 | 0.75 | 0.19 | 0.19 | 0.75 | 0.56 | 0.56 | 0.17 | 0.47 | 0.38 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 21.4 | 22.0 | 22.0 | 20.0 | 12.8 | 12.8 | 35.6 | 23.7 | 23.7 | 25.1 | 23.1 | 7.1  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 21.4 | 22.0 | 22.0 | 20.0 | 12.8 | 12.8 | 35.6 | 23.7 | 23.7 | 25.1 | 23.1 | 7.1  |
| Queue:       | 1    | 4    | 1    | 13   | 3    | 2    | 5    | 14   | 2    | 1    | 9    | 5    |



Table J.7-6 (Continued)

B-PM.CMD

Tue Nov 5, 1996 12:31:20

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FISCO/Port Vision 2000 EIS/EIR

Minimum Marine/Minimum Rail Alternative

PM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #7 Middle Harbor Rd. / Gate 2

Cycle (sec):

100

Critical Vol./Cap. (X):

0.803

Loss Time (sec):

0 (Y+R = 4 sec)

Average Delay (sec/veh):

20.6

Optimal Cycle:

116

Level Of Service:

C

Approach:

North Bound

South Bound

East Bound

West Bound

Movement:

L - T - R

L - T - R

L - T - R

L - T - R

Control:

Protected

Protected

Protected

Protected

Rights:

Include

Include

Include

Include

Min. Green:

10

0

20

0

0

0

0

20

20

10

20

0

Lanes:

1

0

0

0

1

0

0

0

0

0

1

1

0

Volume Module:

Base Vol:

95

0

229

0

0

0

0

215

131

94

88

0

Growth Adj:

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

Initial Bse:

95

0

229

0

0

0

0

215

131

94

88

0

Added Vol:

6

0

304

0

0

0

0

205

2

136

214

0

PasserByVol:

76

0

106

0

0

0

0

0

106

159

0

0

Initial Fut:

177

0

639

0

0

0

0

420

239

389

302

0

User Adj:

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

PHF Adj:

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

PHF Volume:

177

0

639

0

0

0

0

420

239

389

302

0

Reduct Vol:

0

0

0

0

0

0

0

0

0

0

0

0

Reduced Vol:

177

0

639

0

0

0

0

420

239

389

302

0

PCE Adj:

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

MLF Adj:

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.05

1.05

1.00

1.05

1.00

Final Vol.:

177

0

639

0

0

0

0

441

251

389

317

0

Saturation Flow Module:

Sat/Lane:

1900

1900

1900

1900

1900

1900

1900

1900

1900

1900

1900

1900

Adjustment:

0.95

1.00

0.85

1.00

1.00

1.00

1.00

0.95

0.95

0.95

1.00

1.00

Lanes:

1.00

0.00

1.00

0.00

0.00

0.00

0.00

1.27

0.73

1.00

2.00

0.00

Final Sat.:

1805

0

1615

0

0

0

0

2301

1309

1805

3800

0

Capacity Analysis Module:

Vol/Sat:

0.10

0.00

0.40

0.00

0.00

0.00

0.00

0.19

0.19

0.22

0.08

0.00

Crit Moves:

\*\*\*\*

\*\*\*\*

\*\*\*\*

Green/Cycle:

0.49

0.00

0.49

0.00

0.00

0.00

0.00

0.24

0.24

0.27

0.51

0.00

Volume/Cap:

0.20

0.00

0.80

0.00

0.00

0.00

0.00

0.80

0.80

0.80

0.16

0.00

Level Of Service Module:

Delay/Veh:

9.2

0.0

17.9

0.0

0.0

0.0

0.0

27.0

27.0

28.6

8.6

0.0

User DelAdj:

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

AdjDel/Veh:

9.2

0.0

17.9

0.0

0.0

0.0

0.0

27.0

27.0

28.6

8.6

0.0

Queue:

3

0

16

0

0

0

0

13

8

11

5

0

|  |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
|--|--|--------------------------|--|--------------------------|-------------|------|--|-------------|--|------|-------------|-----------|--|
| B-PM.CMD   |  | Tue Nov 5, 1996 12:31:20 |  |                          |             |      |  |             |  |      |             | Page 11-1 |  |
| FISCO/Port Vision 2000 EIS/EIR                         |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Minimum Marine/Minimum Rail Alternative                |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| PM Peak Hour   |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Level Of Service Computation Report                    |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| 1994 HCM Operations Method (Future Volume Alternative) |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Intersection #8 Adeline St./ 3rd St.                   |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| *****  |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Cycle (sec):   |  | 100                      |  | Critical Vol./Cap. (X):  |             |      |  |             |  |      |             | 0.618     |  |
| Loss Time (sec):                                       |  | 12 (Y+R = 4 sec)         |  | Average Delay (sec/veh): |             |      |  |             |  |      |             | 46.7      |  |
| Optimal Cycle:   |  | 92                       |  | Level Of Service:        |             |      |  |             |  |      |             | E         |  |
| *****  |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Approach:  |  | North Bound              |  |                          | South Bound |      |  | East Bound  |  |      | West Bound  |           |  |
| Movement:  |  | L - T - R                |  |                          | L - T - R   |      |  | L - T - R   |  |      | L - T - R   |           |  |
| ----- ----- ----- ----- -----                          |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Control:   |  | Split Phase              |  |                          | Split Phase |      |  | Split Phase |  |      | Split Phase |           |  |
| Rights:  |  | Include                  |  |                          | Include     |      |  | Include     |  |      | Include     |           |  |
| Min. Green:  |  | 10                       |  | 20                       |             | 20   |  | 10          |  | 20   |             | 20        |  |
| Lanes:   |  | 0                        |  | 1                        |             | 0    |  | 1           |  | 0    |             | 1         |  |
| ----- ----- ----- ----- -----                          |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Volume Module:   |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Base Vol:  |  | 36                       |  | 0                        |             | 122  |  | 43          |  | 0    |             | 15        |  |
| Growth Adj:  |  | 1.00                     |  | 1.00                     |             | 1.00 |  | 1.00        |  | 1.00 |             | 1.00      |  |
| Initial Bse:   |  | 36                       |  | 0                        |             | 122  |  | 43          |  | 0    |             | 15        |  |
| Added Vol:   |  | 0                        |  | 891                      |             | 0    |  | 0           |  | 570  |             | 0         |  |
| PasserByVol:   |  | 0                        |  | 0                        |             | 0    |  | 0           |  | 0    |             | 0         |  |
| Initial Fut:   |  | 36                       |  | 891                      |             | 122  |  | 43          |  | 570  |             | 15        |  |
| User Adj:  |  | 1.00                     |  | 1.00                     |             | 1.00 |  | 1.00        |  | 1.00 |             | 1.00      |  |
| PHF Adj:   |  | 1.00                     |  | 1.00                     |             | 1.00 |  | 1.00        |  | 1.00 |             | 1.00      |  |
| PHF Volume:  |  | 36                       |  | 891                      |             | 122  |  | 43          |  | 570  |             | 15        |  |
| Reduct Vol:  |  | 0                        |  | 0                        |             | 0    |  | 0           |  | 0    |             | 0         |  |
| Reduced Vol:   |  | 36                       |  | 891                      |             | 122  |  | 43          |  | 570  |             | 15        |  |
| PCE Adj:   |  | 1.00                     |  | 1.00                     |             | 1.00 |  | 1.00        |  | 1.00 |             | 1.00      |  |
| MLF Adj:   |  | 1.05                     |  | 1.05                     |             | 1.05 |  | 1.05        |  | 1.05 |             | 1.05      |  |
| Final Vol.:  |  | 38                       |  | 936                      |             | 128  |  | 45          |  | 599  |             | 16        |  |
| ----- ----- ----- ----- -----                          |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Saturation Flow Module:                                |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Sat/Lane:  |  | 1900                     |  | 1900                     |             | 1900 |  | 1900        |  | 1900 |             | 1900      |  |
| Adjustment:  |  | 0.98                     |  | 0.98                     |             | 0.98 |  | 1.00        |  | 1.00 |             | 1.00      |  |
| Lanes:   |  | 0.07                     |  | 1.70                     |             | 0.23 |  | 0.14        |  | 1.81 |             | 0.05      |  |
| Final Sat.:  |  | 128                      |  | 3163                     |             | 433  |  | 259         |  | 3449 |             | 92        |  |
| ----- ----- ----- ----- -----                          |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Capacity Analysis Module:                              |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Vol/Sat:   |  | 0.30                     |  | 0.30                     |             | 0.30 |  | 0.17        |  | 0.17 |             | 0.17      |  |
| Crit Moves:  |  | ****                     |  |                          | ****        |      |  | ****        |  |      | ****        |           |  |
| Green/Cycle:   |  | 0.28                     |  | 0.28                     |             | 0.28 |  | 0.20        |  | 0.20 |             | 0.20      |  |
| Volume/Cap:  |  | 1.06                     |  | 1.06                     |             | 1.06 |  | 0.87        |  | 0.87 |             | 0.87      |  |
| ----- ----- ----- ----- -----                          |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Level Of Service Module:                               |  |                          |  |                          |             |      |  |             |  |      |             |           |  |
| Delay/Veh:   |  | 61.2                     |  | 61.2                     |             | 61.2 |  | 32.5        |  | 32.5 |             | 32.5      |  |
| User DelAdj:   |  | 1.00                     |  | 1.00                     |             | 1.00 |  | 1.00        |  | 1.00 |             | 1.00      |  |
| AdjDel/Veh:  |  | 61.2                     |  | 61.2                     |             | 61.2 |  | 32.5        |  | 32.5 |             | 32.5      |  |
| Queue:   |  | 3                        |  | 39                       |             | 7    |  | 2           |  | 18   |             | 1         |  |
| *****  |  |                          |  |                          |             |      |  |             |  |      |             |           |  |

FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #9 7th/New Middle Harbor

Cycle (sec): 100 Critical Vol./Cap. (X): 0.321  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 9.7  
Optimal Cycle: 58 Level Of Service: B

| Approach:   | North Bound |   |    | South Bound |   |   | East Bound |    |    | West Bound |    |   |
|-------------|-------------|---|----|-------------|---|---|------------|----|----|------------|----|---|
| Movement:   | L           | T | R  | L           | T | R | L          | T  | R  | L          | T  | R |
| Control:    | Protected   |   |    | Protected   |   |   | Protected  |    |    | Protected  |    |   |
| Rights:     | Include     |   |    | Include     |   |   | Include    |    |    | Include    |    |   |
| Min. Green: | 10          | 0 | 20 | 0           | 0 | 0 | 0          | 20 | 20 | 10         | 20 | 0 |
| Lanes:      | 1           | 0 | 0  | 0           | 0 | 0 | 0          | 0  | 1  | 1          | 0  | 1 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    |
| Added Vol:   | 0    | 0    | 127  | 0    | 0    | 0    | 0    | 592  | 0    | 95   | 402  | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 0    | 127  | 0    | 0    | 0    | 0    | 592  | 0    | 95   | 402  | 1    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 127  | 0    | 0    | 0    | 0    | 592  | 0    | 95   | 402  | 1    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 127  | 0    | 0    | 0    | 0    | 592  | 0    | 95   | 402  | 1    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 0    | 0    | 127  | 0    | 0    | 0    | 0    | 622  | 0    | 95   | 422  | 1    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 1.00 | 1.99 | 0.01 |
| Final Sat.: | 1900 | 0    | 1615 | 0    | 0    | 0    | 0    | 3800 | 0    | 1805 | 3791 | 9    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.00 | 0.05 | 0.11 | 0.11 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.00 | 0.00 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.51 | 0.00 | 0.16 | 0.67 | 0.67 |
| Volume/Cap:  | 0.00 | 0.00 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.32 | 0.00 | 0.32 | 0.16 | 0.16 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 0.0  | 20.1 | 0.0  | 0.0  | 0.0  | 0.0  | 9.3  | 0.0  | 24.0 | 3.8  | 3.8  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 20.1 | 0.0  | 0.0  | 0.0  | 0.0  | 9.3  | 0.0  | 24.0 | 3.8  | 3.8  |
| Queue:       | 0    | 0    | 3    | 0    | 0    | 0    | 0    | 10   | 0    | 2    | 4    | 0    |

FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.440  
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 19.0  
Optimal Cycle: 70 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 2           | 0  | 0  | 1           | 0  | 0  | 1          | 0  | 1  | 1          | 0  | 1  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 23   | 0    | 9    | 23   | 23   | 20   | 454  | 210  | 0    | 624  | 13   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 23   | 0    | 9    | 23   | 23   | 20   | 454  | 210  | 0    | 624  | 13   |
| Added Vol:   | 435  | 0    | 129  | 0    | 0    | 0    | 0    | 0    | 258  | 95   | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 435  | 23   | 129  | 9    | 23   | 23   | 20   | 454  | 468  | 95   | 624  | 13   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 435  | 23   | 129  | 9    | 23   | 23   | 20   | 454  | 468  | 95   | 624  | 13   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 435  | 23   | 129  | 9    | 23   | 23   | 20   | 454  | 468  | 95   | 624  | 13   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.10 | 1.10 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 448  | 23   | 129  | 9    | 23   | 23   | 20   | 499  | 514  | 95   | 655  | 14   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.87 | 0.87 | 0.95 | 0.93 | 0.93 | 0.95 | 0.92 | 0.92 | 0.95 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 0.15 | 0.85 | 1.00 | 0.50 | 0.50 | 1.00 | 1.48 | 1.52 | 1.00 | 1.96 | 0.04 |
| Final Sat.: | 3610 | 250  | 1403 | 1805 | 884  | 884  | 1805 | 2583 | 2661 | 1805 | 3720 | 80   |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.12 | 0.09 | 0.09 | 0.00 | 0.03 | 0.03 | 0.01 | 0.19 | 0.19 | 0.05 | 0.18 | 0.18 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.23 | 0.29 | 0.29 | 0.14 | 0.20 | 0.20 | 0.16 | 0.37 | 0.37 | 0.10 | 0.31 | 0.31 |
| Volume/Cap:  | 0.53 | 0.32 | 0.32 | 0.03 | 0.13 | 0.13 | 0.07 | 0.53 | 0.53 | 0.53 | 0.57 | 0.57 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 22.1 | 18.1 | 18.1 | 23.7 | 21.2 | 21.2 | 23.3 | 16.4 | 16.4 | 29.9 | 19.1 | 19.1 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 22.1 | 18.1 | 18.1 | 23.7 | 21.2 | 21.2 | 23.3 | 16.4 | 16.4 | 29.9 | 19.1 | 19.1 |
| Queue:       | 11   | 1    | 3    | 0    | 1    | 1    | 0    | 11   | 11   | 3    | 15   | 0    |

Table J.7-6 (Continued)

|   |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
|---|--------------------------|------|------|--------------------------|------|------|-------------|------|------|-------------|-----------|------|---|
| B-PM.CMD  | Tue Nov 5, 1996 12:31:20 |      |      |                          |      |      |             |      |      |             | Page 14-1 |      |   |
| FISCO/Port Vision 2000 EIS/EIR  |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Minimum Marine/Minimum Rail Alternative                                 |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| PM Peak Hour  |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Level Of Service Computation Report                                     |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| 1994 HCM Operations Method (Future Volume Alternative)                  |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| *****   |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp                    |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| *****   |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Cycle (sec):  | 100                      |      |      | Critical Vol./Cap. (X):  |      |      |             |      |      | 0.577       |           |      |   |
| Loss Time (sec):  | 12 (Y+R = 4 sec)         |      |      | Average Delay (sec/veh): |      |      |             |      |      | 21.0        |           |      |   |
| Optimal Cycle:  | 82                       |      |      | Level Of Service:        |      |      |             |      |      | C           |           |      |   |
| *****   |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Approach:   | North Bound              |      |      | South Bound              |      |      | East Bound  |      |      | West Bound  |           |      |   |
| Movement:   | L                        | T    | R    | L                        | T    | R    | L           | T    | R    | L           | T         | R    |   |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Control:  | Protected                |      |      | Protected                |      |      | Split Phase |      |      | Split Phase |           |      |   |
| Rights:   | Ovl                      |      |      | Include                  |      |      | Include     |      |      | Include     |           |      |   |
| Min. Green:   | 10                       | 20   | 20   | 10                       | 20   | 20   | 10          | 10   | 20   | 10          | 20        | 20   |   |
| Lanes:  | 1                        | 0    | 1    | 1                        | 0    | 1    | 1           | 0    | 1    | 0           | 0         | 1    | 1 |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Volume Module:  |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Base Vol:   | 0                        | 0    | 0    | 241                      | 0    | 69   | 138         | 157  | 0    | 0           | 202       | 616  |   |
| Growth Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |   |
| Initial Bse:  | 0                        | 0    | 0    | 241                      | 0    | 69   | 138         | 157  | 0    | 0           | 202       | 616  |   |
| Added Vol:  | 186                      | 172  | 533  | 0                        | 102  | 0    | 0           | 0    | 105  | 363         | 0         | 0    |   |
| PasserByVol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0           | 0    | 0    | 0           | 0         | 0    |   |
| Initial Fut:  | 186                      | 172  | 533  | 241                      | 102  | 69   | 138         | 157  | 105  | 363         | 202       | 616  |   |
| User Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 0.50 |   |
| PHF Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |   |
| PHF Volume:   | 186                      | 172  | 533  | 241                      | 102  | 69   | 138         | 157  | 105  | 363         | 202       | 308  |   |
| Reduct Vol:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0           | 0    | 0    | 0           | 0         | 0    |   |
| Reduced Vol:  | 186                      | 172  | 533  | 241                      | 102  | 69   | 138         | 157  | 105  | 363         | 202       | 308  |   |
| PCE Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |   |
| MLF Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.05 | 1.05 | 1.10        | 1.10 | 1.10 | 1.00        | 1.05      | 1.05 |   |
| Final Vol.:   | 186                      | 172  | 533  | 241                      | 107  | 72   | 152         | 173  | 116  | 363         | 212       | 323  |   |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Saturation Flow Module:   |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Sat/Lane:   | 1900                     | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900        | 1900 | 1900 | 1900        | 1900      | 1900 |   |
| Adjustment:   | 0.95                     | 1.00 | 0.85 | 0.95                     | 0.94 | 0.94 | 0.94        | 0.94 | 0.94 | 0.95        | 0.91      | 0.91 |   |
| Lanes:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.20 | 0.80 | 1.03        | 1.18 | 0.79 | 1.00        | 0.79      | 1.21 |   |
| Final Sat.:   | 1805                     | 1900 | 1615 | 1805                     | 2135 | 1437 | 1848        | 2104 | 1411 | 1805        | 1370      | 2088 |   |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Capacity Analysis Module:   |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Vol/Sat:  | 0.10                     | 0.09 | 0.33 | 0.13                     | 0.05 | 0.05 | 0.08        | 0.08 | 0.08 | 0.20        | 0.15      | 0.15 |   |
| Crit Moves:   | ****                     |      |      | ****                     |      |      | ****        |      |      | ****        |           |      |   |
| Green/Cycle:  | 0.19                     | 0.20 | 0.49 | 0.19                     | 0.20 | 0.20 | 0.20        | 0.20 | 0.20 | 0.29        | 0.29      | 0.29 |   |
| Volume/Cap:   | 0.54                     | 0.45 | 0.68 | 0.70                     | 0.25 | 0.25 | 0.41        | 0.41 | 0.41 | 0.70        | 0.54      | 0.54 |   |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Level Of Service Module:  |                          |      |      |                          |      |      |             |      |      |             |           |      |   |
| Delay/Veh:  | 24.9                     | 22.9 | 13.8 | 28.5                     | 21.8 | 21.8 | 22.7        | 22.7 | 22.7 | 23.3        | 19.8      | 19.8 |   |
| User DelAdj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |   |
| AdjDel/Veh:   | 24.9                     | 22.9 | 13.8 | 28.5                     | 21.8 | 21.8 | 22.7        | 22.7 | 22.7 | 23.3        | 19.8      | 19.8 |   |
| Queue:  | 5                        | 4    | 12   | 7                        | 3    | 2    | 4           | 4    | 3    | 10          | 5         | 8    |   |
| *****   |                          |      |      |                          |      |      |             |      |      |             |           |      |   |

|   |                          |                          |      |             |      |      |             |      |       |             |           |      |
|---|--------------------------|--------------------------|------|-------------|------|------|-------------|------|-------|-------------|-----------|------|
| B-PM.CMD  | Tue Nov 5, 1996 12:31:20 |                          |      |             |      |      |             |      |       |             | Page 15-1 |      |
| FISCO/Port Vision 2000 EIS/EIR  |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Minimum Marine/Minimum Rail Alternative                                 |                          |                          |      |             |      |      |             |      |       |             |           |      |
| PM Peak Hour  |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Level Of Service Computation Report                                     |                          |                          |      |             |      |      |             |      |       |             |           |      |
| 1994 HCM Operations Method (Future Volume Alternative)                  |                          |                          |      |             |      |      |             |      |       |             |           |      |
| *****   |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Intersection #14 Union St./ 5th St./ I-880 North Ramps                  |                          |                          |      |             |      |      |             |      |       |             |           |      |
| *****   |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Cycle (sec):  | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |             |      | 0.205 |             |           |      |
| Loss Time (sec):  | 11 (Y+R = 4 sec)         | Average Delay (sec/veh): |      |             |      |      |             |      | 16.2  |             |           |      |
| Optimal Cycle:  | 71                       | Level Of Service:        |      |             |      |      |             |      | C     |             |           |      |
| *****   |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Approach:   | North Bound              |                          |      | South Bound |      |      | East Bound  |      |       | West Bound  |           |      |
| Movement:   | L                        | T                        | R    | L           | T    | R    | L           | T    | R     | L           | T         | R    |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Control:  | Protected                |                          |      | Protected   |      |      | Split Phase |      |       | Split Phase |           |      |
| Rights:   | Include                  |                          |      | Include     |      |      | Include     |      |       | Include     |           |      |
| Min. Green:   | 0                        | 20                       | 20   | 0           | 20   | 20   | 10          | 20   | 20    | 10          | 20        | 20   |
| Lanes:  | 0                        | 0                        | 1    | 1           | 1    | 0    | 0           | 1    | 0     | 1           | 0         | 0    |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Volume Module:  |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Base Vol:   | 0                        | 194                      | 281  | 0           | 144  | 30   | 31          | 97   | 18    | 32          | 31        | 34   |
| Growth Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00 |
| Initial Bse:  | 0                        | 194                      | 281  | 0           | 144  | 30   | 31          | 97   | 18    | 32          | 31        | 34   |
| Added Vol:  | 0                        | 0                        | 105  | 0           | 0    | 0    | 0           | 0    | 0     | 186         | 0         | 0    |
| PasserByVol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0           | 0    | 0     | 0           | 0         | 0    |
| Initial Fut:  | 0                        | 194                      | 386  | 0           | 144  | 30   | 31          | 97   | 18    | 218         | 31        | 34   |
| User Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00 |
| PHF Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00 |
| PHF Volume:   | 0                        | 194                      | 386  | 0           | 144  | 30   | 31          | 97   | 18    | 218         | 31        | 34   |
| Reduct Vol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0           | 0    | 0     | 0           | 0         | 0    |
| Reduced Vol:  | 0                        | 194                      | 386  | 0           | 144  | 30   | 31          | 97   | 18    | 218         | 31        | 34   |
| PCE Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00 |
| MLF Adj:  | 1.00                     | 1.10                     | 1.10 | 1.00        | 1.05 | 1.05 | 1.05        | 1.05 | 1.05  | 1.00        | 1.00      | 1.00 |
| Final Vol.:   | 0                        | 213                      | 425  | 0           | 151  | 32   | 33          | 102  | 19    | 218         | 31        | 34   |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Saturation Flow Module:   |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Sat/Lane:   | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900        | 1900 | 1900  | 1900        | 1900      | 1900 |
| Adjustment:   | 1.00                     | 0.90                     | 0.90 | 1.00        | 0.97 | 0.97 | 0.97        | 0.97 | 0.97  | 0.95        | 1.00      | 0.85 |
| Lanes:  | 0.00                     | 1.00                     | 2.00 | 0.00        | 1.65 | 0.35 | 0.43        | 1.32 | 0.25  | 1.00        | 1.00      | 1.00 |
| Final Sat.:   | 0                        | 1713                     | 3417 | 0           | 3041 | 645  | 790         | 2442 | 455   | 1805        | 1900      | 1615 |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Capacity Analysis Module:   |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Vol/Sat:  | 0.00                     | 0.12                     | 0.12 | 0.00        | 0.05 | 0.05 | 0.04        | 0.04 | 0.04  | 0.12        | 0.02      | 0.02 |
| Crit Moves:   | ****                     | ****                     | **** | ****        | **** | **** | ****        | **** | ****  | ****        | ****      | **** |
| Green/Cycle:  | 0.00                     | 0.35                     | 0.35 | 0.00        | 0.35 | 0.35 | 0.20        | 0.20 | 0.20  | 0.34        | 0.34      | 0.34 |
| Volume/Cap:   | 0.00                     | 0.36                     | 0.36 | 0.00        | 0.14 | 0.14 | 0.21        | 0.21 | 0.21  | 0.36        | 0.05      | 0.06 |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Level Of Service Module:  |                          |                          |      |             |      |      |             |      |       |             |           |      |
| Delay/Veh:  | 0.0                      | 15.6                     | 15.6 | 0.0         | 14.4 | 14.4 | 21.6        | 21.6 | 21.6  | 16.2        | 14.3      | 14.4 |
| User DelAdj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00 |
| AdjDel/Veh:   | 0.0                      | 15.6                     | 15.6 | 0.0         | 14.4 | 14.4 | 21.6        | 21.6 | 21.6  | 16.2        | 14.3      | 14.4 |
| Queue:  | 0                        | 4                        | 9    | 0           | 3    | 1    | 1           | 2    | 0     | 5           | 1         | 1    |
| *****   |                          |                          |      |             |      |      |             |      |       |             |           |      |



FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.400  
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 18.1  
Optimal Cycle: 70 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Ovl         |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 0          | 20 | 20 |
| Lanes:      | 2           | 0  | 1  | 0           | 1  | 0  | 0          | 2  | 1  | 0          | 2  | 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 197  | 3    | 2    | 0    | 205  | 0    | 108  | 0    | 0    | 53   | 1    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 197  | 3    | 2    | 0    | 205  | 0    | 108  | 0    | 0    | 53   | 1    |
| Added Vol:   | 466  | 0    | 0    | 0    | 0    | 266  | 378  | 18   | 0    | 0    | 11   | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 466  | 197  | 3    | 2    | 0    | 471  | 378  | 126  | 0    | 0    | 64   | 1    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 466  | 197  | 3    | 2    | 0    | 471  | 378  | 126  | 0    | 0    | 64   | 1    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 466  | 197  | 3    | 2    | 0    | 471  | 378  | 126  | 0    | 0    | 64   | 1    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.13 | 1.00 | 1.05 | 1.00 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 480  | 197  | 3    | 2    | 0    | 532  | 378  | 133  | 0    | 0    | 67   | 1    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 0.98 | 0.02 | 1.00 | 0.00 | 2.00 | 1.00 | 2.00 | 0.00 | 0.00 | 1.97 | 0.03 |
| Final Sat.: | 3610 | 1872 | 29   | 1805 | 0    | 3230 | 1805 | 3800 | 0    | 0    | 3744 | 56   |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.13 | 0.11 | 0.11 | 0.00 | 0.00 | 0.16 | 0.21 | 0.04 | 0.00 | 0.00 | 0.02 | 0.02 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      | **** |      |
| Green/Cycle: | 0.19 | 0.26 | 0.26 | 0.13 | 0.00 | 0.51 | 0.31 | 0.51 | 0.00 | 0.00 | 0.20 | 0.20 |
| Volume/Cap:  | 0.68 | 0.40 | 0.40 | 0.01 | 0.00 | 0.33 | 0.68 | 0.07 | 0.00 | 0.00 | 0.09 | 0.09 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 26.1 | 19.9 | 19.9 | 24.4 | 0.0  | 9.5  | 22.1 | 8.2  | 0.0  | 0.0  | 21.1 | 21.1 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 26.1 | 19.9 | 19.9 | 24.4 | 0.0  | 9.5  | 22.1 | 8.2  | 0.0  | 0.0  | 21.1 | 21.1 |
| Queue:       | 13   | 5    | 0    | 0    | 0    | 9    | 10   | 2    | 0    | 0    | 2    | 0    |

FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #16 7th St./ I-880 SB Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.538  
Loss Time (sec): 5 (Y+R = 4 sec) Average Delay (sec/veh): 5.7  
Optimal Cycle: 35 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |    |    | West Bound |    |    |
|-------------|-------------|---|---|-------------|---|---|------------|----|----|------------|----|----|
| Movement:   | L           | T | R | L           | T | R | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |   |   | Protected   |   |   | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |   |   | Include     |   |   | Include    |    |    | Include    |    |    |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0  | 2  | 0          | 1  | 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 7    | 378  | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 7    | 378  | 0    | 0    |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 396  | 645  | 0    | 742  | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 396  | 652  | 378  | 742  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 396  | 652  | 378  | 742  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 396  | 652  | 378  | 742  | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 | 1.03 | 1.05 | 1.00 |
| Final Vol.:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 416  | 652  | 389  | 779  | 0    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 1.00 | 2.00 | 2.00 | 0.00 |
| Final Sat.: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 3800 | 1615 | 3610 | 3800 | 0    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 | 0.40 | 0.11 | 0.20 | 0.00 |
| Crit Moves:  |      |      |      |      |      |      |      | **** | **** |      |      |      |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.75 | 0.75 | 0.20 | 0.95 | 0.00 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.54 | 0.54 | 0.22 | 0.00 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 2.3  | 3.8  | 23.8 | 0.1  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 2.3  | 3.8  | 23.8 | 0.1  | 0.0  |
| Queue:       | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 3    | 8    | 10   | 1    | 0    |



Table J.7-6 (Continued)

B-PM.CMD

Tue Nov 5, 1996 12:31:20

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FISCO/Port Vision 2000 EIS/EIR

Minimum Marine/Minimum Rail Alternative

PM Peak Hour

Level Of Service Computation Report

1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #17 14th St./ I-880 Frontage Rd.

Average Delay (sec/veh): 2.2 Worst Case Level Of Service: C

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign

Rights: Include Include Include Include

Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 0 1 0 0 0 1

Volume Module:

Base Vol: 0 62 130 4 0 0 0 0 0 0 115 0 7

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 0 62 130 4 0 0 0 0 0 0 115 0 7

Added Vol: 0 378 0 0 266 0 0 0 0 0 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0

Initial Fut: 0 440 130 4 266 0 0 0 0 0 115 0 7

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 0 440 130 4 266 0 0 0 0 115 0 7

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Final Vol.: 0 440 130 4 266 0 0 0 0 115 0 7

Adjusted Volume Module:

Grade: 0% 0% 0% 0%

% Cycle/Cars: xxxx xxxx xxxx xxxx

% Truck/Comb: xxxx xxxx xxxx xxxx

PCE Adj: 1.10 1.00 1.00 1.10 1.00 1.00 1.10 1.10 1.10 1.10 1.10 1.10

Cycl/Car PCE: xxxx xxxx xxxx xxxx

Trck/Cmb PCE: xxxx xxxx xxxx xxxx

Adj Vol.: 0 440 130 4 266 0 0 0 0 127 0 8

Critical Gap Module:

MoveUp Time:xxxxx xxxx xxxxx 2.1 xxxx xxxxx xxxxx xxxx xxxxx 3.4 xxxx 2.6

Critical Gp:xxxxx xxxx xxxxx 5.5 xxxx xxxxx xxxxx xxxx xxxxx 7.0 xxxx 5.5

Capacity Module:

Cnflict Vol: xxxx xxxx xxxxx 570 xxxx xxxxx xxxx xxxx xxxxx 775 xxxx 285

Potent Cap.: xxxx xxxx xxxxx 847 xxxx xxxxx xxxx xxxx xxxxx 338 xxxx 993

Adj Cap: xxxx xxxx xxxxx 1.00 xxxx xxxxx xxxx xxxx xxxxx 0.99 xxxx 1.00

Move Cap.: xxxx xxxx xxxxx 847 xxxx xxxxx xxxx xxxx xxxxx 337 xxxx 993

Level Of Service Module:

Stopped Del:xxxxx xxxx xxxxx 4.3 xxxx xxxxx xxxxx xxxx xxxxx 16.2 xxxx 3.7

LOS by Move: \* \* \* A \* \* \* C \* A

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx

Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx

Shared LOS: \* \* \* \* \* \* \* \* \* \*

ApproachDel: 0.0 0.1 0.0 15.5

|  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
|--|--------------------------|--|--|--|--|--|--|--|--|--|--|--|-----------|
| B-PM.CMD   | Tue Nov 5, 1996 12:31:20 |  |  |  |  |  |  |  |  |  |  |  | Page 19-1 |
| FISCO/Port Vision 2000 EIS/EIR   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Minimum Marine/Minimum Rail Alternative                                  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PM Peak Hour   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Level Of Service Computation Report                                      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| 1994 HCM Operations Method (Future Volume Alternative)                   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Intersection #18 W.Grand Ave./ I-880 Frontage Rd.                        |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Cycle (sec): 100 Critical Vol./Cap. (X): 0.652                           |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Loss Time (sec): 11 (Y+R = 4 sec) Average Delay (sec/veh): 21.9          |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Optimal Cycle: 81 Level Of Service: C                                    |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Approach: North Bound South Bound East Bound West Bound                  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Movement: L - T - R L - T - R L - T - R L - T - R                        |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Control: Split Phase Split Phase Protected Protected                     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Rights: Include Include Include Include                                  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Min. Green: 10 20 20 10 20 20 10 20 20 10 20 20                          |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Lanes: 1 0 1 1 0 1 1 0 1 0 1 1 1 1                                       |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Volume Module:   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Base Vol: 75 72 0 759 0 6 86 277 3 0 456 330                             |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Initial Bse: 75 72 0 759 0 6 86 277 3 0 456 330                          |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Added Vol: 0 229 149 0 168 0 0 129 0 98 95 0                             |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0                                     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Initial Fut: 75 301 149 759 168 6 86 406 3 98 551 330                    |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00         |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00          |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PHF Volume: 75 301 149 759 168 6 86 406 3 98 551 330                     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0                                      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Reduced Vol: 75 301 149 759 168 6 86 406 3 98 551 330                    |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00          |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| MLF Adj: 1.00 1.05 1.05 1.05 1.00 1.00 1.00 1.05 1.05 1.00 1.10 1.10     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Final Vol.: 75 316 156 797 168 6 86 426 3 98 606 363                     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Saturation Flow Module:  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900         |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Adjustment: 0.95 0.95 0.95 0.95 1.00 1.00 0.95 1.00 1.00 0.95 0.94 0.94  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Lanes: 1.00 1.34 0.66 2.00 0.97 0.03 1.00 1.99 0.01 1.00 1.88 1.12       |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Final Sat.: 1805 2417 1193 3610 1834 66 1805 3773 27 1805 3351 2007      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Capacity Analysis Module:  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Vol/Sat: 0.04 0.13 0.13 0.22 0.09 0.09 0.05 0.11 0.11 0.05 0.18 0.18     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Crit Moves: **** **** **** ****  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Green/Cycle: 0.20 0.20 0.20 0.32 0.32 0.32 0.10 0.24 0.24 0.12 0.27 0.27 |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Volume/Cap: 0.21 0.65 0.65 0.68 0.28 0.28 0.48 0.46 0.46 0.45 0.68 0.68  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Level Of Service Module:   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Delay/Veh: 21.6 25.3 25.3 19.9 16.2 16.2 29.0 21.1 21.1 27.3 22.2 22.2   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| AdjDel/Veh: 21.6 25.3 25.3 19.9 16.2 16.2 29.0 21.1 21.1 27.3 22.2 22.2  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Queue: 2 8 4 20 3 0 2 10 0 3 16 10                                       |                          |  |  |  |  |  |  |  |  |  |  |  |           |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
AM Peak Hour

## Trip Generation Report

## Forecast for AM Peak Hour

| Zone # | Subzone          | Amount  | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|--------|------------------|---------|----------------|---------|----------|----------|-----------|-------------|------------|
| 1      | New Harbor       | 1135.00 | Employees      | 0.26    | 0.05     | 295      | 57        | 352         | 5.5        |
|        | Zone 1 Subtotal  |         |                |         |          | 295      | 57        | 352         | 5.5        |
| 3      | J.I.T.           | 208.00  | Employees      | 0.40    | 0.09     | 83       | 19        | 102         | 1.6        |
|        | Zone 3 Subtotal  |         |                |         |          | 83       | 19        | 102         | 1.6        |
| 4      | SP Rail Term     | 210.00  | Employees      | 0.40    | 0.09     | 84       | 19        | 103         | 1.6        |
|        | Zone 4 Subtotal  |         |                |         |          | 84       | 19        | 103         | 1.6        |
| 6      | Middle Harbr     | 516.00  | Employees      | 0.26    | 0.05     | 134      | 26        | 160         | 2.5        |
|        | Zone 6 Subtotal  |         |                |         |          | 134      | 26        | 160         | 2.5        |
| 7      | 7th St Harbr     | 613.00  | Employees      | 0.26    | 0.05     | 159      | 31        | 190         | 2.9        |
|        | Zone 7 Subtotal  |         |                |         |          | 159      | 31        | 190         | 2.9        |
| 8      | Outer Harbor     | 706.00  | Employees      | 0.26    | 0.05     | 184      | 35        | 219         | 3.4        |
|        | Zone 8 Subtotal  |         |                |         |          | 184      | 35        | 219         | 3.4        |
| 10     | New Park         | 1.00    | Total Trips    | 31.00   | 19.00    | 31       | 19        | 50          | 0.8        |
|        | Zone 10 Subtotal |         |                |         |          | 31       | 19        | 50          | 0.8        |
| 11     | New Harbor       | 1.00    | Trucks Inter   | 300.00  | 320.00   | 300      | 320       | 620         | 9.6        |
|        | Zone 11 Subtotal |         |                |         |          | 300      | 320       | 620         | 9.6        |
| 16     | Middle Harbr     | 1.00    | Trucks Inter   | 136.00  | 145.00   | 136      | 145       | 281         | 4.4        |
|        | Zone 16 Subtotal |         |                |         |          | 136      | 145       | 281         | 4.4        |
| 17     | 7th St Harbr     | 1.00    | Trucks Inter   | 162.00  | 173.00   | 162      | 173       | 335         | 5.2        |
|        | Zone 17 Subtotal |         |                |         |          | 162      | 173       | 335         | 5.2        |
| 18     | Outer Harbor     | 1.00    | Trucks Inter   | 187.00  | 199.00   | 187      | 199       | 386         | 6.0        |
|        | Zone 18 Subtotal |         |                |         |          | 187      | 199       | 386         | 6.0        |
| 21     | New Harbor       | 1.00    | Truck External | 511.00  | 544.00   | 511      | 544       | 1055        | 16.4       |
|        | Zone 21 Subtotal |         |                |         |          | 511      | 544       | 1055        | 16.4       |
| 23     | J.I.T.           | 1.00    | Truck External | 214.00  | 228.00   | 214      | 228       | 442         | 6.9        |
|        | Zone 23 Subtotal |         |                |         |          | 214      | 228       | 442         | 6.9        |
| 24     | SP Rail Term     | 1.00    | Truck External | 217.00  | 231.00   | 217      | 231       | 448         | 6.9        |
|        | Zone 24 Subtotal |         |                |         |          | 217      | 231       | 448         | 6.9        |
| 26     | Middle Harbr     | 1.00    | Truck External | 232.00  | 247.00   | 232      | 247       | 479         | 7.4        |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
AM Peak Hour

| Zone # | Subzone          | Amount | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|--------|------------------|--------|----------------|---------|----------|----------|-----------|-------------|------------|
|        | Zone 26 Subtotal |        |                |         |          | 232      | 247       | 479         | 7.4        |
| 27     | 7th St Harbr     | 1.00   | Truck External | 276.00  | 294.00   | 276      | 294       | 570         | 8.8        |
|        | Zone 27 Subtotal |        |                |         |          | 276      | 294       | 570         | 8.8        |
| 28     | Outer Harbor     | 1.00   | Truck External | 318.00  | 338.00   | 318      | 338       | 656         | 10.2       |
|        | Zone 28 Subtotal |        |                |         |          | 318      | 338       | 656         | 10.2       |
| TOTAL  |                  |        |                |         |          | 3523     | 2925      | 6448        | 100.0      |

Table J.7-7 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
AM Peak Hour

## Trip Distribution Report

## Percent Of Trips Existing

| Zone | To Gates |      |     |     |      |      |      |      |       |
|------|----------|------|-----|-----|------|------|------|------|-------|
|      | 3        | 4    | 5   | 11  | 12   | 13   | 14   | 15   | 16    |
| 1    | 0.0      | 0.0  | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 3    | 0.0      | 0.0  | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 4    | 0.0      | 0.0  | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 6    | 0.0      | 0.0  | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 7    | 0.0      | 0.0  | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 8    | 0.0      | 0.0  | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 10   | 0.0      | 0.0  | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 100.0 |
| 11   | 49.6     | 50.4 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 16   | 49.6     | 50.4 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 17   | 49.6     | 50.4 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 18   | 49.6     | 50.4 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 21   | 0.0      | 0.0  | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 23   | 0.0      | 0.0  | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 24   | 0.0      | 0.0  | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 26   | 0.0      | 0.0  | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 27   | 0.0      | 0.0  | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 28   | 0.0      | 0.0  | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
AM Peak Hour

Turning Movement Report  
AM Peak Hour

| Volume Type                                 | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total Volume |
|---|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------------|
|   | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |              |
| #3 Maritime St./ Burma St.                  |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 5          | 78   | 0     | 0          | 287  | 0     | 0         | 0    | 5     | 0         | 0    | 0     | 375          |
| Added                                       | 0          | 290  | 0     | 0          | 426  | 177   | 106       | 0    | 0     | 0         | 0    | 0     | 998          |
| Total                                       | 5          | 368  | 0     | 0          | 713  | 177   | 106       | 0    | 5     | 0         | 0    | 0     | 1373         |
| #4 Maritime St./ 14th St.                   |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 91   | 39    | 103        | 261  | 0     | 0         | 0    | 0     | 22        | 0    | 87    | 603          |
| Added                                       | 408        | 209  | 0     | 0          | 321  | 105   | 81        | 0    | 385   | 0         | 0    | 0     | 1509         |
| Total                                       | 408        | 300  | 39    | 103        | 582  | 105   | 81        | 0    | 385   | 22        | 0    | 87    | 2112         |
| #5 Maritime St./ 7th St. Extension          |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 159        | 0    | 0     | 0          | 0    | 334   | 69        | 0    | 37    | 0         | 0    | 0     | 599          |
| Added                                       | 495        | 493  | 0     | 0          | 561  | 145   | 123       | 0    | 446   | 0         | 0    | 0     | 2264         |
| Total                                       | 654        | 493  | 0     | 0          | 561  | 479   | 192       | 0    | 483   | 0         | 0    | 0     | 2863         |
| #6 7th St./ 7th St. Extension               |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 54    | 54           |
| Added                                       | 233        | 159  | 49    | 403        | 176  | 428   | 358       | 412  | 248   | 58        | 493  | 471   | 3488         |
| Total                                       | 233        | 159  | 49    | 403        | 176  | 428   | 358       | 412  | 248   | 58        | 493  | 525   | 3542         |
| #7 Middle Harbor/New Mddl Hrbr Rd           |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 53         | 0    | 45    | 0          | 0    | 0     | 0         | 0    | 39    | 208       | 338  | 0     | 683          |
| Added                                       | 0          | 0    | 419   | 0          | 0    | 0     | 0         | 205  | 0     | 478       | 343  | 0     | 1444         |
| Total                                       | 53         | 0    | 464   | 0          | 0    | 0     | 0         | 205  | 39    | 686       | 681  | 0     | 2127         |
| #8 Adeline St./ 3rd St.                     |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 8          | 0    | 31    | 26         | 0    | 26    | 8         | 6    | 29    | 50        | 59   | 56    | 299          |
| Added                                       | 0          | 828  | 0     | 0          | 1113 | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1942         |
| Total                                       | 8          | 828  | 31    | 26         | 1113 | 26    | 8         | 6    | 29    | 50        | 59   | 56    | 2241         |
| #9 7th/New Middle Harbor                    |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0            |
| Added                                       | 0          | 0    | 502   | 0          | 0    | 0     | 0         | 517  | 0     | 526       | 628  | 0     | 2173         |
| Total                                       | 0          | 0    | 502   | 0          | 0    | 0     | 0         | 517  | 0     | 526       | 628  | 0     | 2173         |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 33   | 0     | 16         | 28   | 47    | 48        | 394  | 438   | 0         | 300  | 9     | 1313         |
| Added                                       | 294        | 0    | 102   | 0          | 0    | 0     | 0         | 0    | 486   | 117       | 0    | 0     | 998          |
| Total                                       | 294        | 33   | 102   | 16         | 28   | 47    | 48        | 394  | 924   | 117       | 300  | 9     | 2311         |
| #13 Adeline St./ 5th St./ I-880 SB Ramp     |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 72         | 109  | 165   | 256       | 51   | 0     | 0         | 169  | 364   | 1186         |
| Added                                       | 92         | 163  | 573   | 0          | 233  | 0     | 0         | 0    | 171   | 710       | 0    | 0     | 1942         |
| Total                                       | 92         | 163  | 573   | 72         | 342  | 165   | 256       | 51   | 171   | 710       | 169  | 364   | 3128         |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
AM Peak Hour

| Volume | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total  |
|--------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------|
| Type   | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume |

## #14 Union St./ 5th St./ I-880 North Ramps

|       |   |     |     |   |     |    |    |    |    |     |    |     |      |
|-------|---|-----|-----|---|-----|----|----|----|----|-----|----|-----|------|
| Base  | 0 | 175 | 45  | 0 | 154 | 31 | 24 | 43 | 13 | 205 | 31 | 115 | 836  |
| Added | 0 | 0   | 171 | 0 | 0   | 0  | 0  | 0  | 0  | 92  | 0  | 0   | 263  |
| Total | 0 | 175 | 216 | 0 | 154 | 31 | 24 | 43 | 13 | 297 | 31 | 115 | 1099 |

## #15 7th St./ I-880 NB Ramps / Frontage Rd.

|       |     |     |    |    |   |     |     |    |   |   |    |   |      |
|-------|-----|-----|----|----|---|-----|-----|----|---|---|----|---|------|
| Base  | 0   | 548 | 21 | 17 | 0 | 94  | 0   | 16 | 0 | 0 | 62 | 1 | 759  |
| Added | 575 | 0   | 0  | 0  | 0 | 436 | 383 | 3  | 0 | 0 | 12 | 0 | 1408 |
| Total | 575 | 548 | 21 | 17 | 0 | 530 | 383 | 19 | 0 | 0 | 74 | 1 | 2167 |

## #16 7th St./ I-880 SB Ramps

|       |   |   |   |   |   |   |   |     |     |    |      |   |      |
|-------|---|---|---|---|---|---|---|-----|-----|----|------|---|------|
| Base  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0   | 0   | 65 | 0    | 0 | 65   |
| Added | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 386 | 478 | 0  | 1022 | 0 | 1886 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 386 | 478 | 65 | 1022 | 0 | 1951 |

## #17 14th St./ I-880 Frontage Rd.

|       |   |     |    |    |     |   |   |   |   |     |   |   |      |
|-------|---|-----|----|----|-----|---|---|---|---|-----|---|---|------|
| Base  | 0 | 0   | 89 | 30 | 0   | 0 | 0 | 0 | 0 | 140 | 0 | 6 | 265  |
| Added | 0 | 383 | 0  | 0  | 436 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 819  |
| Total | 0 | 383 | 89 | 30 | 436 | 0 | 0 | 0 | 0 | 140 | 0 | 6 | 1084 |

## #18 W.Grand Ave./ I-880 Frontage Rd.

|       |   |     |     |     |     |   |    |     |    |     |     |     |      |
|-------|---|-----|-----|-----|-----|---|----|-----|----|-----|-----|-----|------|
| Base  | 9 | 0   | 0   | 678 | 48  | 6 | 65 | 234 | 12 | 0   | 152 | 449 | 1653 |
| Added | 0 | 271 | 112 | 0   | 299 | 0 | 0  | 102 | 0  | 137 | 117 | 0   | 1037 |
| Total | 9 | 271 | 112 | 678 | 347 | 6 | 65 | 336 | 12 | 137 | 269 | 449 | 2690 |

## #134

|       |   |   |     |   |   |   |   |     |   |     |     |   |      |
|-------|---|---|-----|---|---|---|---|-----|---|-----|-----|---|------|
| Base  | 0 | 0 | 0   | 0 | 0 | 0 | 0 | 0   | 0 | 0   | 0   | 0 | 0    |
| Added | 0 | 0 | 389 | 0 | 0 | 0 | 0 | 247 | 0 | 415 | 297 | 0 | 1349 |
| Total | 0 | 0 | 389 | 0 | 0 | 0 | 0 | 247 | 0 | 415 | 297 | 0 | 1349 |

## #138

|       |   |      |   |   |      |     |     |   |   |   |   |   |      |
|-------|---|------|---|---|------|-----|-----|---|---|---|---|---|------|
| Base  | 0 | -156 | 0 | 0 | -173 | -26 | -24 | 0 | 0 | 0 | 0 | 0 | -379 |
| Added | 0 | 0    | 0 | 0 | 0    | 0   | 0   | 0 | 0 | 0 | 0 | 0 | 0    |
| Total | 0 | -156 | 0 | 0 | -173 | -26 | -24 | 0 | 0 | 0 | 0 | 0 | -379 |

## #158

|       |   |      |      |   |   |   |   |   |   |   |   |   |      |
|-------|---|------|------|---|---|---|---|---|---|---|---|---|------|
| Base  | 0 | -180 | -129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -309 |
| Added | 0 | 212  | 110  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 322  |
| Total | 0 | 32   | -19  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13   |

## #159

|       |      |   |   |   |   |   |   |   |   |   |      |   |      |
|-------|------|---|---|---|---|---|---|---|---|---|------|---|------|
| Base  | -180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -178 | 0 | -358 |
| Added | 212  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 163  | 0 | 375  |
| Total | 32   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -15  | 0 | 17   |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
AM Peak Hour

| Volume | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total  |
|--------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------|
| Type   | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume |

## #160

|       |   |   |   |   |   |   |   |   |   |      |      |   |      |
|-------|---|---|---|---|---|---|---|---|---|------|------|---|------|
| Base  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -178 | -180 | 0 | -358 |
| Added | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 163  | 212  | 0 | 375  |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -15  | 32   | 0 | 17   |

## #161

|       |   |   |   |   |      |   |   |   |      |   |   |   |      |
|-------|---|---|---|---|------|---|---|---|------|---|---|---|------|
| Base  | 0 | 0 | 0 | 0 | -178 | 0 | 0 | 0 | -286 | 0 | 0 | 0 | -464 |
| Added | 0 | 0 | 0 | 0 | 163  | 0 | 0 | 0 | 375  | 0 | 0 | 0 | 538  |
| Total | 0 | 0 | 0 | 0 | -15  | 0 | 0 | 0 | 89   | 0 | 0 | 0 | 74   |

## #165

|       |   |   |   |   |      |   |   |   |      |   |   |   |      |
|-------|---|---|---|---|------|---|---|---|------|---|---|---|------|
| Base  | 0 | 0 | 0 | 0 | -227 | 0 | 0 | 0 | -495 | 0 | 0 | 0 | -722 |
| Added | 0 | 0 | 0 | 0 | 171  | 0 | 0 | 0 | 478  | 0 | 0 | 0 | 649  |
| Total | 0 | 0 | 0 | 0 | -56  | 0 | 0 | 0 | -17  | 0 | 0 | 0 | -73  |

## #170

|       |   |      |      |   |   |   |   |   |   |   |   |   |      |
|-------|---|------|------|---|---|---|---|---|---|---|---|---|------|
| Base  | 0 | -153 | -564 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -717 |
| Added | 0 | 92   | 575  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 666  |
| Total | 0 | -61  | 11   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -51  |

## #177

|       |   |   |   |   |      |   |   |      |   |   |   |   |      |
|-------|---|---|---|---|------|---|---|------|---|---|---|---|------|
| Base  | 0 | 0 | 0 | 0 | -351 | 0 | 0 | -129 | 0 | 0 | 0 | 0 | -480 |
| Added | 0 | 0 | 0 | 0 | 418  | 0 | 0 | 110  | 0 | 0 | 0 | 0 | 528  |
| Total | 0 | 0 | 0 | 0 | 67   | 0 | 0 | -19  | 0 | 0 | 0 | 0 | 48   |

## #178

|       |   |      |   |   |   |   |      |     |   |   |   |   |      |
|-------|---|------|---|---|---|---|------|-----|---|---|---|---|------|
| Base  | 0 | -266 | 0 | 0 | 0 | 0 | -104 | -25 | 0 | 0 | 0 | 0 | -395 |
| Added | 0 | 335  | 0 | 0 | 0 | 0 | 74   | 36  | 0 | 0 | 0 | 0 | 444  |
| Total | 0 | 69   | 0 | 0 | 0 | 0 | -30  | 11  | 0 | 0 | 0 | 0 | 49   |

## #182

|       |   |      |   |   |   |      |   |   |   |   |   |   |      |
|-------|---|------|---|---|---|------|---|---|---|---|---|---|------|
| Base  | 0 | -370 | 0 | 0 | 0 | -475 | 0 | 0 | 0 | 0 | 0 | 0 | -845 |
| Added | 0 | 408  | 0 | 0 | 0 | 513  | 0 | 0 | 0 | 0 | 0 | 0 | 921  |
| Total | 0 | 38   | 0 | 0 | 0 | 38   | 0 | 0 | 0 | 0 | 0 | 0 | 76   |

## #201

|       |   |   |   |   |   |   |   |      |   |   |   |   |      |
|-------|---|---|---|---|---|---|---|------|---|---|---|---|------|
| Base  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -932 | 0 | 0 | 0 | 0 | -932 |
| Added | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1051 | 0 | 0 | 0 | 0 | 1051 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 119  | 0 | 0 | 0 | 0 | 119  |

## #204

|       |   |   |   |      |      |   |   |   |   |   |   |   |      |
|-------|---|---|---|------|------|---|---|---|---|---|---|---|------|
| Base  | 0 | 0 | 0 | -352 | -580 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -932 |
| Added | 0 | 0 | 0 | 393  | 658  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1051 |
| Total | 0 | 0 | 0 | 41   | 78   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 119  |



Table J.7-7 (Continued)

|   |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
|---|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|----------|--------|--|
| C-AM.CMD                                |            | Tue Nov 5, 1996 13:07:09 |       |            |      |       |           |      |       |           |      | Page 3-4 |        |  |
| FISCO/Port Vision 2000 EIS/EIR          |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
| Maximum Marine/Minimum Rail Alternative |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
| AM Peak Hour                            |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
| Volume                                  | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |          | Total  |  |
| Type                                    | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right    | Volume |  |
| #207                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
| Base                                    | 0          | -714                     | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | -396     | -1110  |  |
| Added                                   | 0          | 847                      | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 437      | 1284   |  |
| Total                                   | 0          | 133                      | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 41       | 174    |  |
| #214                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
| Base                                    | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -546      | -564 | 0        | -1110  |  |
| Added                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 710       | 575  | 0        | 1284   |  |
| Total                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 164       | 11   | 0        | 174    |  |
| #217                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
| Base                                    | 0          | 0                        | 0     | 0          | -45  | 0     | 0         | -25  | 0     | 0         | 0    | 0        | -70    |  |
| Added                                   | 0          | 0                        | 0     | 0          | 35   | 0     | 0         | 36   | 0     | 0         | 0    | 0        | 71     |  |
| Total                                   | 0          | 0                        | 0     | 0          | -10  | 0     | 0         | 11   | 0     | 0         | 0    | 0        | 1      |  |
| #218                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
| Base                                    | 0          | -21                      | 0     | 0          | 0    | 0     | -21       | -4   | 0     | 0         | 0    | 0        | -46    |  |
| Added                                   | 0          | 15                       | 0     | 0          | 0    | 0     | 32        | 4    | 0     | 0         | 0    | 0        | 51     |  |
| Total                                   | 0          | -6                       | 0     | 0          | 0    | 0     | 11        | -0   | 0     | 0         | 0    | 0        | 5      |  |
| #219                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
| Base                                    | 0          | -43                      | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -20  | 0        | -63    |  |
| Added                                   | 0          | 47                       | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 20   | 0        | 67     |  |
| Total                                   | 0          | 4                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 4      |  |
| #220                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
| Base                                    | 0          | 0                        | 0     | 0          | -45  | -34   | 0         | 0    | 0     | 0         | -20  | 0        | -99    |  |
| Added                                   | 0          | 0                        | 0     | 0          | 35   | 48    | 0         | 0    | 0     | 0         | 20   | 0        | 103    |  |
| Total                                   | 0          | 0                        | 0     | 0          | -10  | 14    | 0         | 0    | 0     | 0         | 0    | 0        | 4      |  |
| #225                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
| Base                                    | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -396 | -20      | -416   |  |
| Added                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 437  | 20       | 457    |  |
| Total                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 41   | 0        | 41     |  |
| #226                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
| Base                                    | 0          | 0                        | 0     | -4         | 0    | 0     | 0         | -352 | 0     | 0         | 0    | 0        | -356   |  |
| Added                                   | 0          | 0                        | 0     | 4          | 0    | 0     | 0         | 393  | 0     | 0         | 0    | 0        | 397    |  |
| Total                                   | 0          | 0                        | 0     | -0         | 0    | 0     | 0         | 41   | 0     | 0         | 0    | 0        | 41     |  |
| #244                                    |            |                          |       |            |      |       |           |      |       |           |      |          |        |  |
| Base                                    | 0          | 0                        | 0     | 0          | 0    | -288  | -312      | -47  | 0     | 0         | -45  | 0        | -692   |  |
| Added                                   | 0          | 0                        | 0     | 0          | 0    | 250   | 301       | 422  | 0     | 0         | 396  | 0        | 1368   |  |
| Total                                   | 0          | 0                        | 0     | 0          | 0    | -38   | -11       | 375  | 0     | 0         | 351  | 0        | 676    |  |

|   |                          |      |       |         |      |       |         |      |       |         |      |       |          |
|---|--------------------------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|----------|
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| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>AM Peak Hour |                          |      |       |         |      |       |         |      |       |         |      |       |          |
| Link Volume Report<br>AM Peak Hour  |                          |      |       |         |      |       |         |      |       |         |      |       |          |
| Volume  | NB Link                  |      |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total    |
| Type  | In                       | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | Volume   |
| #3 Maritime St./ Burma St.  |                          |      |       |         |      |       |         |      |       |         |      |       |          |
| Base  | 83                       | 292  | 375   | 287     | 78   | 365   | 5       | 5    | 10    | 0       | 0    | 0     | 750      |
| Added   | 290                      | 426  | 716   | 603     | 396  | 998   | 106     | 177  | 282   | 0       | 0    | 0     | 1997     |
| Total   | 373                      | 718  | 1091  | 890     | 474  | 1363  | 111     | 182  | 292   | 0       | 0    | 0     | 2747     |
| #4 Maritime St./ 14th St.   |                          |      |       |         |      |       |         |      |       |         |      |       |          |
| Base  | 130                      | 283  | 413   | 364     | 178  | 542   | 0       | 0    | 0     | 109     | 142  | 251   | 1206     |
| Added   | 616                      | 707  | 1323  | 426     | 290  | 716   | 466     | 512  | 979   | 0       | 0    | 0     | 3018     |
| Total   | 746                      | 990  | 1736  | 790     | 468  | 1258  | 466     | 512  | 979   | 109     | 142  | 251   | 4224     |
| #5 Maritime St./ 7th St. Extension  |                          |      |       |         |      |       |         |      |       |         |      |       |          |
| Base  | 159                      | 37   | 196   | 334     | 69   | 403   | 106     | 493  | 599   | 0       | 0    | 0     | 1198     |
| Added   | 988                      | 1007 | 1995  | 707     | 616  | 1323  | 569     | 640  | 1209  | 0       | 0    | 0     | 4527     |
| Total   | 1147                     | 1044 | 2191  | 1041    | 685  | 1726  | 675     | 1133 | 1808  | 0       | 0    | 0     | 5725     |
| #6 7th St./ 7th St. Extension   |                          |      |       |         |      |       |         |      |       |         |      |       |          |
| Base  | 0                        | 0    | 0     | 0       | 54   | 54    | 0       | 0    | 0     | 54      | 0    | 54    | 108      |
| Added   | 441                      | 482  | 923   | 1007    | 988  | 1995  | 1019    | 1154 | 2173  | 1022    | 864  | 1886  | 6977     |
| Total   | 441                      | 482  | 923   | 1007    | 1042 | 2049  | 1019    | 1154 | 2173  | 1076    | 864  | 1940  | 7085     |
| #7 Middle Harbor/New Mddl Hrbr Rd   |                          |      |       |         |      |       |         |      |       |         |      |       |          |
| Base  | 98                       | 247  | 345   | 0       | 0    | 0     | 39      | 391  | 430   | 546     | 45   | 591   | 1366     |
| Added   | 419                      | 478  | 897   | 0       | 0    | 0     | 205     | 343  | 548   | 820     | 624  | 1444  | 2889     |
| Total   | 517                      | 725  | 1242  | 0       | 0    | 0     | 244     | 734  | 978   | 1366    | 669  | 2035  | 4255     |
| #8 Adeline St./ 3rd St.   |                          |      |       |         |      |       |         |      |       |         |      |       |          |
| Base  | 39                       | 79   | 118   | 52      | 64   | 116   | 43      | 93   | 136   | 165     | 63   | 228   | 598      |
| Added   | 828                      | 1113 | 1942  | 1113    | 828  | 1942  | 0       | 0    | 0     | 0       | 0    | 0     | 3883     |
| Total   | 867                      | 1192 | 2060  | 1165    | 892  | 2058  | 43      | 93   | 136   | 165     | 63   | 228   | 4481     |
| #9 7th/New Middle Harbor  |                          |      |       |         |      |       |         |      |       |         |      |       |          |
| Base  | 0                        | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0        |
| Added   | 502                      | 526  | 1028  | 0       | 0    | 0     | 517     | 628  | 1145  | 1154    | 1019 | 2173  | 4346     |
| Total   | 502                      | 526  | 1028  | 0       | 0    | 0     | 517     | 628  | 1145  | 1154    | 1019 | 2173  | 4346     |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps   |                          |      |       |         |      |       |         |      |       |         |      |       |          |
| Base  | 33                       | 466  | 499   | 91      | 90   | 181   | 880     | 347  | 1227  | 309     | 410  | 719   | 2626     |
| Added   | 396                      | 603  | 998   | 0       | 0    | 0     | 486     | 294  | 780   | 117     | 102  | 218   | 1997     |
| Total   | 429                      | 1069 | 1497  | 91      | 90   | 181   | 1366    | 641  | 2007  | 426     | 512  | 937   | 4623     |
| #13 Adeline St./ 5th St./ I-880 SB Ramp   |                          |      |       |         |      |       |         |      |       |         |      |       |          |
| Base  | 0                        | 109  | 109   | 346     | 620  | 966   | 307     | 334  | 641   | 533     | 123  | 656   | 2372     |
| Added   | 828                      | 1113 | 1942  | 233     | 163  | 396   | 171     | 92   | 263   | 710     | 573  | 1283  | 3883     |
| Total   | 828                      | 1222 | 2051  | 579     | 783  | 1362  | 478     | 426  | 904   | 1243    | 696  | 1939  | 6255     |

|   |         |                          |       |         |      |       |         |      |       |         |      |          |        |
|---|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|------|----------|--------|
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| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>AM Peak Hour |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Volume  | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |      |          | Total  |
| Type  | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total    | Volume |
| #14 Union St./ 5th St./ I-880 North Ramps   |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 220     | 372                      | 592   | 185     | 314  | 499   | 80      | 62   | 142   | 351     | 88   | 439      | 1672   |
| Added   | 171     | 92                       | 263   | 0       | 0    | 0     | 0       | 0    | 0     | 92      | 171  | 263      | 526    |
| Total   | 391     | 464                      | 855   | 185     | 314  | 499   | 80      | 62   | 142   | 443     | 259  | 702      | 2198   |
| #15 7th St./ I-880 NB Ramps / Frontage Rd.  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 569     | 0                        | 569   | 111     | 549  | 660   | 16      | 156  | 172   | 63      | 54   | 117      | 1518   |
| Added   | 575     | 0                        | 575   | 436     | 383  | 819   | 386     | 1022 | 1408  | 12      | 3    | 14       | 2815   |
| Total   | 1144    | 0                        | 1144  | 547     | 932  | 1479  | 402     | 1178 | 1580  | 75      | 57   | 131      | 4333   |
| #16 7th St./ I-880 SB Ramps   |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | 65                       | 65    | 0       | 0    | 0     | 0       | 0    | 0     | 65      | 0    | 65       | 130    |
| Added   | 0       | 478                      | 478   | 0       | 0    | 0     | 864     | 1022 | 1886  | 1022    | 386  | 1408     | 3772   |
| Total   | 0       | 543                      | 543   | 0       | 0    | 0     | 864     | 1022 | 1886  | 1087    | 386  | 1473     | 3902   |
| #17 14th St./ I-880 Frontage Rd.  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 89      | 140                      | 229   | 30      | 6    | 36    | 0       | 0    | 0     | 146     | 119  | 265      | 530    |
| Added   | 383     | 436                      | 819   | 436     | 383  | 819   | 0       | 0    | 0     | 0       | 0    | 0        | 1638   |
| Total   | 472     | 576                      | 1048  | 466     | 389  | 855   | 0       | 0    | 0     | 146     | 119  | 265      | 2168   |
| #18 W.Grand Ave./ I-880 Frontage Rd.  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 9       | 60                       | 69    | 732     | 514  | 1246  | 311     | 167  | 478   | 601     | 912  | 1513     | 3306   |
| Added   | 383     | 436                      | 819   | 299     | 271  | 570   | 102     | 117  | 218   | 253     | 214  | 467      | 2074   |
| Total   | 392     | 496                      | 888   | 1031    | 785  | 1816  | 413     | 284  | 696   | 854     | 1126 | 1980     | 5380   |
| #134  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0        | 0      |
| Added   | 389     | 415                      | 805   | 0       | 0    | 0     | 247     | 297  | 544   | 712     | 636  | 1349     | 2697   |
| Total   | 389     | 415                      | 805   | 0       | 0    | 0     | 247     | 297  | 544   | 712     | 636  | 1349     | 2697   |
| #138  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | -156    | -173                     | -329  | -199    | -180 | -379  | -24     | -26  | -50   | 0       | 0    | 0        | -758   |
| Added   | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0        | 0      |
| Total   | -156    | -173                     | -329  | -199    | -180 | -379  | -24     | -26  | -50   | 0       | 0    | 0        | -758   |
| #158  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | -309    | 0                        | -309  | 0       | -180 | -180  | 0       | 0    | 0     | 0       | -129 | -129     | -618   |
| Added   | 322     | 0                        | 322   | 0       | 212  | 212   | 0       | 0    | 0     | 0       | 110  | 110      | 644    |
| Total   | 13      | 0                        | 13    | 0       | 32   | 32    | 0       | 0    | 0     | 0       | -19  | -19      | 26     |
| #159  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | -180    | 0                        | -180  | 0       | 0    | 0     | 0       | -358 | -358  | -178    | 0    | -178     | -716   |
| Added   | 212     | 0                        | 212   | 0       | 0    | 0     | 0       | 375  | 375   | 163     | 0    | 163      | 750    |
| Total   | 32      | 0                        | 32    | 0       | 0    | 0     | 0       | 17   | 17    | -15     | 0    | -15      | 34     |

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|---|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>AM Peak Hour |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Volume  | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |      |          | Total  |
| Type  | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total    | Volume |
| #160  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | -178                     | -178  | 0       | 0    | 0     | 0       | -180 | -180  | -358    | 0    | -358     | -716   |
| Added   | 0       | 163                      | 163   | 0       | 0    | 0     | 0       | 212  | 212   | 375     | 0    | 375      | 750    |
| Total   | 0       | -15                      | -15   | 0       | 0    | 0     | 0       | 32   | 32    | 17      | 0    | 17       | 34     |
| #161  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | -464                     | -464  | -178    | 0    | -178  | -286    | 0    | -286  | 0       | 0    | 0        | -928   |
| Added   | 0       | 538                      | 538   | 163     | 0    | 163   | 375     | 0    | 375   | 0       | 0    | 0        | 1076   |
| Total   | 0       | 74                       | 74    | -15     | 0    | -15   | 89      | 0    | 89    | 0       | 0    | 0        | 148    |
| #165  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | -722                     | -722  | -227    | 0    | -227  | -495    | 0    | -495  | 0       | 0    | 0        | -1444  |
| Added   | 0       | 649                      | 649   | 171     | 0    | 171   | 478     | 0    | 478   | 0       | 0    | 0        | 1298   |
| Total   | 0       | -73                      | -73   | -56     | 0    | -56   | -17     | 0    | -17   | 0       | 0    | 0        | -146   |
| #170  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | -717    | 0                        | -717  | 0       | -153 | -153  | 0       | 0    | 0     | 0       | -564 | -564     | -1434  |
| Added   | 666     | 0                        | 666   | 0       | 92   | 92    | 0       | 0    | 0     | 0       | 575  | 575      | 1333   |
| Total   | -51     | 0                        | -51   | 0       | -61  | -61   | 0       | 0    | 0     | 0       | 11   | 11       | -101   |
| #177  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | -351                     | -351  | -351    | 0    | -351  | -129    | 0    | -129  | 0       | -129 | -129     | -960   |
| Added   | 0       | 418                      | 418   | 418     | 0    | 418   | 110     | 0    | 110   | 0       | 110  | 110      | 1056   |
| Total   | 0       | 67                       | 67    | 67      | 0    | 67    | -19     | 0    | -19   | 0       | -19  | -19      | 96     |
| #178  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | -266    | 0                        | -266  | 0       | -370 | -370  | -129    | 0    | -129  | 0       | -25  | -25      | -790   |
| Added   | 335     | 0                        | 335   | 0       | 408  | 408   | 110     | 0    | 110   | 0       | 36   | 36       | 889    |
| Total   | 69      | 0                        | 69    | 0       | 38   | 38    | -19     | 0    | -19   | 0       | 11   | 11       | 99     |
| #182  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | -370    | 0                        | -370  | -475    | -370 | -845  | 0       | -475 | -475  | 0       | 0    | 0        | -1690  |
| Added   | 408     | 0                        | 408   | 513     | 408  | 921   | 0       | 513  | 513   | 0       | 0    | 0        | 1843   |
| Total   | 38      | 0                        | 38    | 38      | 38   | 76    | 0       | 38   | 38    | 0       | 0    | 0        | 153    |
| #201  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | 0                        | 0     | 0       | 0    | 0     | -932    | 0    | -932  | 0       | -932 | -932     | -1864  |
| Added   | 0       | 0                        | 0     | 0       | 0    | 0     | 1051    | 0    | 1051  | 0       | 1051 | 1051     | 2103   |
| Total   | 0       | 0                        | 0     | 0       | 0    | 0     | 119     | 0    | 119   | 0       | 119  | 119      | 239    |
| #204  |         |                          |       |         |      |       |         |      |       |         |      |          |        |
| Base  | 0       | -580                     | -580  | -932    | 0    | -932  | 0       | 0    | 0     | 0       | -352 | -352     | -1864  |
| Added   | 0       | 658                      | 658   | 1051    | 0    | 1051  | 0       | 0    | 0     | 0       | 393  | 393      | 2103   |
| Total   | 0       | 78                       | 78    | 119     | 0    | 119   | 0       | 0    | 0     | 0       | 41   | 41       | 239    |

Table J.7-7 (Continued)

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|---|---------|------|--------------------------|---------|-------|-------|---------|------|-------|---------|------|-------|----------|--|
| FISCO/Port Vision 2000 EIS/EIR          |         |      |                          |         |       |       |         |      |       |         |      |       |          |  |
| Maximum Marine/Minimum Rail Alternative |         |      |                          |         |       |       |         |      |       |         |      |       |          |  |
| AM Peak Hour                            |         |      |                          |         |       |       |         |      |       |         |      |       |          |  |
| Volume                                  | NB Link |      |                          | SB Link |       |       | EB Link |      |       | WB Link |      |       | Total    |  |
| Type                                    | In      | Out  | Total                    | In      | Out   | Total | In      | Out  | Total | In      | Out  | Total | Volume   |  |
| #207                                    |         |      |                          |         |       |       |         |      |       |         |      |       |          |  |
| Base                                    | -714    | 0    | -714                     | 0       | -1110 | -1110 | 0       | 0    | 0     | -396    | 0    | -396  | -222     |  |
| Added                                   | 847     | 0    | 847                      | 0       | 1284  | 1284  | 0       | 0    | 0     | 437     | 0    | 437   | 2568     |  |
| Total                                   | 133     | 0    | 133                      | 0       | 174   | 174   | 0       | 0    | 0     | 41      | 0    | 41    | 348      |  |
| #214                                    |         |      |                          |         |       |       |         |      |       |         |      |       |          |  |
| Base                                    | 0       | -546 | -546                     | 0       | 0     | 0     | 0       | -564 | -564  | -1110   | 0    | -1110 | -2220    |  |
| Added                                   | 0       | 710  | 710                      | 0       | 0     | 0     | 0       | 575  | 575   | 1284    | 0    | 1284  | 2568     |  |
| Total                                   | 0       | 164  | 164                      | 0       | 0     | 0     | 0       | 11   | 11    | 174     | 0    | 174   | 348      |  |
| #217                                    |         |      |                          |         |       |       |         |      |       |         |      |       |          |  |
| Base                                    | 0       | -45  | -45                      | -45     | 0     | -45   | -25     | 0    | -25   | 0       | -25  | -25   | -140     |  |
| Added                                   | 0       | 35   | 35                       | 35      | 0     | 35    | 36      | 0    | 36    | 0       | 36   | 36    | 142      |  |
| Total                                   | 0       | -10  | -10                      | -10     | 0     | -10   | 11      | 0    | 11    | 0       | 11   | 11    | 2        |  |
| #218                                    |         |      |                          |         |       |       |         |      |       |         |      |       |          |  |
| Base                                    | -21     | 0    | -21                      | 0       | -42   | -42   | -25     | 0    | -25   | 0       | -4   | -4    | -92      |  |
| Added                                   | 15      | 0    | 15                       | 0       | 47    | 47    | 36      | 0    | 36    | 0       | 4    | 4     | 102      |  |
| Total                                   | -6      | 0    | -6                       | 0       | 5     | 5     | 11      | 0    | 11    | 0       | -0   | -0    | 10       |  |
| #219                                    |         |      |                          |         |       |       |         |      |       |         |      |       |          |  |
| Base                                    | -43     | 0    | -43                      | 0       | -43   | -43   | 0       | -20  | -20   | -20     | 0    | -20   | -126     |  |
| Added                                   | 47      | 0    | 47                       | 0       | 47    | 47    | 0       | 20   | 20    | 20      | 0    | 20    | 134      |  |
| Total                                   | 4       | 0    | 4                        | 0       | 4     | 4     | 0       | 0    | 0     | 0       | 0    | 0     | 8        |  |
| #220                                    |         |      |                          |         |       |       |         |      |       |         |      |       |          |  |
| Base                                    | 0       | -45  | -45                      | -79     | 0     | -79   | 0       | -54  | -54   | -20     | 0    | -20   | -198     |  |
| Added                                   | 0       | 35   | 35                       | 82      | 0     | 82    | 0       | 68   | 68    | 20      | 0    | 20    | 205      |  |
| Total                                   | 0       | -10  | -10                      | 3       | 0     | 3     | 0       | 14   | 14    | 0       | 0    | 0     | 7        |  |
| #225                                    |         |      |                          |         |       |       |         |      |       |         |      |       |          |  |
| Base                                    | 0       | 0    | 0                        | 0       | -20   | -20   | 0       | -396 | -396  | -416    | 0    | -416  | -832     |  |
| Added                                   | 0       | 0    | 0                        | 0       | 20    | 20    | 0       | 437  | 437   | 457     | 0    | 457   | 914      |  |
| Total                                   | 0       | 0    | 0                        | 0       | 0     | 0     | 0       | 41   | 41    | 41      | 0    | 41    | 82       |  |
| #226                                    |         |      |                          |         |       |       |         |      |       |         |      |       |          |  |
| Base                                    | 0       | 0    | 0                        | -4      | 0     | -4    | -352    | 0    | -352  | 0       | -356 | -356  | -712     |  |
| Added                                   | 0       | 0    | 0                        | 4       | 0     | 4     | 393     | 0    | 393   | 0       | 397  | 397   | 794      |  |
| Total                                   | 0       | 0    | 0                        | -0      | 0     | -0    | 41      | 0    | 41    | 0       | 41   | 41    | 82       |  |
| #244                                    |         |      |                          |         |       |       |         |      |       |         |      |       |          |  |
| Base                                    | 0       | 0    | 0                        | -288    | -312  | -600  | -359    | -333 | -692  | -45     | -47  | -92   | -1384    |  |
| Added                                   | 0       | 0    | 0                        | 250     | 301   | 551   | 723     | 646  | 1368  | 396     | 422  | 817   | 2737     |  |
| Total                                   | 0       | 0    | 0                        | -38     | -11   | -49   | 364     | 313  | 676   | 351     | 375  | 725   | 1353     |  |

|   |                                |                          |            |         |             |          |             |  |
|---|--------------------------------|--------------------------|------------|---------|-------------|----------|-------------|--|
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| -----                                   |                                |                          |            |         |             |          |             |  |
| FISCO/Port Vision 2000 EIS/EIR          |                                |                          |            |         |             |          |             |  |
| Maximum Marine/Minimum Rail Alternative |                                |                          |            |         |             |          |             |  |
| AM Peak Hour                            |                                |                          |            |         |             |          |             |  |
| -----                                   |                                |                          |            |         |             |          |             |  |
| Impact Analysis Report                  |                                |                          |            |         |             |          |             |  |
| Level Of Service                        |                                |                          |            |         |             |          |             |  |
| -----                                   |                                |                          |            |         |             |          |             |  |
| Intersection                            |                                | Base                     |            | Future  |             | Change   |             |  |
|   |                                | Del/                     | V/         | Del/    | V/          | in       |             |  |
|   |                                | LOS Veh                  | C          | LOS Veh | C           |          |             |  |
| # 3                                     | Maritime St./ Burma St.        | B                        | 6.3 0.089  | B       | 8.5 0.278   | +        | 2.178 D/V   |  |
| # 4                                     | Maritime St./ 14th St.         | C                        | 15.0 0.161 | C       | 20.8 0.819  | +        | 5.776 D/V   |  |
| # 5                                     | Maritime St./ 7th St. Extensio | B                        | 12.7 0.071 | B       | 12.1 0.588  | -        | 0.581 D/V   |  |
| # 6                                     | 7th St./ 7th St. Extension     | C                        | 16.4 0.000 | C       | 24.9 0.672  | +        | 8.542 D/V   |  |
| # 7                                     | Middle Harbor/New Mddl Hrbr Rd | B                        | 6.6 0.167  | C       | 16.8 0.736  | +        | 10.155 D/V  |  |
| # 8                                     | Adeline St./ 3rd St.           | B                        | 8.7 0.064  | F       | 111.2 0.705 | +        | 102.460 D/V |  |
| # 9                                     | 7th/New Middle Harbor          |                          | 0.0 0.000  | C       | 20.7 0.810  | +        | 20.677 D/V  |  |
| # 12                                    | Maritime St./ W.Grand Ave./ I- | B                        | 12.0 0.242 | C       | 17.1 0.547  | +        | 5.120 D/V   |  |
| # 13                                    | Adeline St./ 5th St./ I-880 SB | C                        | 18.3 0.236 | D       | 28.2 0.789  | +        | 9.906 D/V   |  |
| # 14                                    | Union St./ 5th St./ I-880 Nort | C                        | 16.4 0.104 | C       | 17.0 0.137  | +        | 0.629 D/V   |  |
| # 15                                    | 7th St./ I-880 NB Ramps / Fron | B                        | 13.0 0.366 | C       | 22.8 0.605  | +        | 9.827 D/V   |  |
| # 16                                    | 7th St./ I-880 SB Ramps        | A                        | 0.1 0.020  | A       | 1.4 0.331   | +        | 1.291 D/V   |  |
| # 17                                    | 14th St./ I-880 Frontage Rd.   | A                        | 2.8 0.000  | D       | 3.9 0.000   | +        | 0.000 V/C   |  |
| # 18                                    | W.Grand Ave./ I-880 Frontage R | C                        | 19.9 0.237 | C       | 21.2 0.544  | +        | 1.301 D/V   |  |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #3 Maritime St./ Burma St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.278  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 8.5  
Optimal Cycle: 58 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Protected Protected Protected Protected  
Rights: Include Include Include Include  
Min. Green: 10 20 20 10 20 20 10 20 20 0 0 0  
Lanes: 1 0 1 1 0 1 0 1 1 0 0 0 0 0 0

## Volume Module:

Base Vol: 5 78 0 0 287 0 0 0 5 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 5 78 0 0 287 0 0 0 5 0 0 0  
Added Vol: 0 290 0 0 426 177 106 0 0 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 5 368 0 0 713 177 106 0 5 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 5 368 0 0 713 177 106 0 5 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 5 368 0 0 713 177 106 0 5 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.05 1.05 1.00 1.05 1.05 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 5 386 0 0 749 185 106 0 5 0 0 0

## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.95 1.00 1.00 1.00 0.97 0.97 0.95 1.00 0.85 1.00 1.00 1.00  
Lanes: 1.00 2.00 0.00 1.00 1.60 0.40 1.00 0.00 1.00 0.00 0.00 0.00  
Final Sat.: 1805 3800 0 1900 2956 730 1805 0 1615 0 0 0

## Capacity Analysis Module:

Vol/Sat: 0.00 0.10 0.00 0.00 0.25 0.25 0.06 0.00 0.00 0.00 0.00 0.00  
Crit Moves: \*\*\*\* \*\*\*\*  
Green/Cycle: 0.10 0.48 0.00 0.00 0.62 0.62 0.20 0.00 0.20 0.00 0.00 0.00  
Volume/Cap: 0.03 0.21 0.00 0.00 0.41 0.41 0.29 0.00 0.02 0.00 0.00 0.00

## Level Of Service Module:

Delay/Veh: 26.2 9.7 0.0 0.0 6.3 6.3 22.1 0.0 20.7 0.0 0.0 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 26.2 9.7 0.0 0.0 6.3 6.3 22.1 0.0 20.7 0.0 0.0 0.0  
Queue: 0 6 0 0 11 3 3 0 0 0 0 0

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #4 Maritime St./ 14th St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.819  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 20.8  
Optimal Cycle: 70 Level Of Service: C

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Protected Protected Permitted Permitted  
Rights: Include Include Ovl Include  
Min. Green: 10 20 20 10 20 20 10 20 20 10 20 20  
Lanes: 1 0 1 1 0 1 0 1 1 0 0 0 1 0 1 0

## Volume Module:

Base Vol: 0 91 39 103 261 0 0 0 0 22 0 87  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 91 39 103 261 0 0 0 0 22 0 87  
Added Vol: 408 209 0 0 321 105 81 0 385 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 408 300 39 103 582 105 81 0 385 22 0 87  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 408 300 39 103 582 105 81 0 385 22 0 87  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 408 300 39 103 582 105 81 0 385 22 0 87  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.05 1.05 1.00 1.05 1.05 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 408 315 41 103 612 110 81 0 385 22 0 87

## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.95 0.98 0.98 0.95 0.98 0.98 0.73 1.00 0.73 0.57 1.00 0.85  
Lanes: 1.00 1.77 0.23 1.00 1.70 0.30 0.17 0.00 0.83 1.00 0.00 1.00  
Final Sat.: 1805 3295 429 1805 3157 567 243 0 1153 1083 0 1615

## Capacity Analysis Module:

Vol/Sat: 0.23 0.10 0.10 0.06 0.19 0.19 0.33 0.00 0.33 0.02 0.00 0.05  
Crit Moves: \*\*\*\* \*\*\*\*  
Green/Cycle: 0.28 0.34 0.34 0.17 0.24 0.24 0.41 0.00 0.68 0.41 0.00 0.41  
Volume/Cap: 0.82 0.28 0.28 0.33 0.82 0.82 0.82 0.00 0.49 0.05 0.00 0.13

## Level Of Service Module:

Delay/Veh: 29.1 15.5 15.5 23.8 27.7 27.7 23.4 0.0 5.2 11.6 0.0 12.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 29.1 15.5 15.5 23.8 27.7 27.7 23.4 0.0 5.2 11.6 0.0 12.0  
Queue: 12 6 1 3 17 4 3 0 5 0 0 2



Table J.7-7 (Continued)

|  |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
|--|--------------------------|------|------|--------------------------|------|------|------------|------|------|------------|------|-------|----------|
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| FISCO/Port Vision 2000 EIS/EIR                         |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Maximum Marine/Minimum Rail Alternative                |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| AM Peak Hour   |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Level Of Service Computation Report                    |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Intersection #5 Maritime St./ 7th St. Extension        |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| *****  |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Cycle (sec):   | 100                      |      |      | Critical Vol./Cap. (X):  |      |      |            |      |      |            |      | 0.588 |          |
| Loss Time (sec):                                       | 8 (Y+R = 4 sec)          |      |      | Average Delay (sec/veh): |      |      |            |      |      |            |      | 12.1  |          |
| Optimal Cycle:   | 48                       |      |      | Level Of Service:        |      |      |            |      |      |            |      | B     |          |
| *****  |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Approach:  | North Bound              |      |      | South Bound              |      |      | East Bound |      |      | West Bound |      |       |          |
| Movement:  | L                        | T    | R    | L                        | T    | R    | L          | T    | R    | L          | T    | R     |          |
| -----  |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Control:   | Protected                |      |      | Protected                |      |      | Protected  |      |      | Protected  |      |       |          |
| Rights:  | Include                  |      |      | Ovl                      |      |      | Ovl        |      |      | Include    |      |       |          |
| Min. Green:  | 10                       | 20   | 0    | 0                        | 20   | 20   | 10         | 0    | 20   | 0          | 0    | 0     |          |
| Lanes:   | 2                        | 0    | 2    | 0                        | 0    | 2    | 0          | 1    | 2    | 0          | 0    | 0     |          |
| -----  |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Volume Module:   |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Base Vol:  | 159                      | 0    | 0    | 0                        | 0    | 334  | 69         | 0    | 37   | 0          | 0    | 0     |          |
| Growth Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| Initial Bse:   | 159                      | 0    | 0    | 0                        | 0    | 334  | 69         | 0    | 37   | 0          | 0    | 0     |          |
| Added Vol:   | 495                      | 493  | 0    | 0                        | 561  | 145  | 123        | 0    | 446  | 0          | 0    | 0     |          |
| PasserByVol:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |          |
| Initial Fut:   | 654                      | 493  | 0    | 0                        | 561  | 479  | 192        | 0    | 483  | 0          | 0    | 0     |          |
| User Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| PHF Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| PHF Volume:  | 654                      | 493  | 0    | 0                        | 561  | 479  | 192        | 0    | 483  | 0          | 0    | 0     |          |
| Reduct Vol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |          |
| Reduced Vol:   | 654                      | 493  | 0    | 0                        | 561  | 479  | 192        | 0    | 483  | 0          | 0    | 0     |          |
| PCE Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| MLF Adj:   | 1.03                     | 1.05 | 1.00 | 1.00                     | 1.05 | 1.00 | 1.03       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| Final Vol.:  | 673                      | 518  | 0    | 0                        | 589  | 479  | 198        | 0    | 483  | 0          | 0    | 0     |          |
| -----  |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Saturation Flow Module:                                |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Sat/Lane:  | 1900                     | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900  |          |
| Adjustment:  | 0.95                     | 1.00 | 1.00 | 1.00                     | 1.00 | 0.85 | 0.95       | 1.00 | 0.85 | 1.00       | 1.00 | 1.00  |          |
| Lanes:   | 2.00                     | 2.00 | 0.00 | 0.00                     | 2.00 | 1.00 | 2.00       | 0.00 | 1.00 | 0.00       | 0.00 | 0.00  |          |
| Final Sat.:  | 3610                     | 3800 | 0    | 0                        | 3800 | 1615 | 3610       | 0    | 1615 | 0          | 0    | 0     |          |
| -----  |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Capacity Analysis Module:                              |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Vol/Sat:   | 0.19                     | 0.14 | 0.00 | 0.00                     | 0.15 | 0.30 | 0.05       | 0.00 | 0.30 | 0.00       | 0.00 | 0.00  |          |
| Crit Moves:  | ****                     |      |      | ****                     |      |      | ****       |      |      |            |      |       |          |
| Green/Cycle:   | 0.35                     | 0.71 | 0.00 | 0.00                     | 0.36 | 0.57 | 0.21       | 0.00 | 0.56 | 0.00       | 0.00 | 0.00  |          |
| Volume/Cap:  | 0.54                     | 0.19 | 0.00 | 0.00                     | 0.42 | 0.52 | 0.26       | 0.00 | 0.54 | 0.00       | 0.00 | 0.00  |          |
| -----  |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Level Of Service Module:                               |                          |      |      |                          |      |      |            |      |      |            |      |       |          |
| Delay/Veh:   | 17.4                     | 3.1  | 0.0  | 0.0                      | 15.6 | 8.8  | 21.4       | 0.0  | 9.6  | 0.0        | 0.0  | 0.0   |          |
| User DelAdj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |
| AdjDel/Veh:  | 17.4                     | 3.1  | 0.0  | 0.0                      | 15.6 | 8.8  | 21.4       | 0.0  | 9.6  | 0.0        | 0.0  | 0.0   |          |
| Queue:   | 15                       | 5    | 0    | 0                        | 12   | 8    | 5          | 0    | 9    | 0          | 0    | 0     |          |
| *****  |                          |      |      |                          |      |      |            |      |      |            |      |       |          |

|  |                          |  |  |  |  |  |  |  |  |  |  |  |          |
|--|--------------------------|--|--|--|--|--|--|--|--|--|--|--|----------|
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| FISCO/Port Vision 2000 EIS/EIR   |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Maximum Marine/Minimum Rail Alternative                                  |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| AM Peak Hour   |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Level Of Service Computation Report                                      |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| 1994 HCM Operations Method (Future Volume Alternative)                   |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Intersection #6 7th St./ 7th St. Extension                               |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Cycle (sec): 100 Critical Vol./Cap. (X): 0.672                           |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 24.9           |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Optimal Cycle: 68 Level Of Service: C                                    |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Approach: North Bound South Bound East Bound West Bound                  |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Movement: L - T - R L - T - R L - T - R L - T - R                        |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Control: Protected Protected Protected Protected                         |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Rights: Include Include Include Ovl                                      |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Min. Green: 10 20 20 10 20 20 10 20 20 0 20 20                           |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Lanes: 1 0 1 1 0 1 0 1 1 0 1 0 2 0 1                                     |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Volume Module:   |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Base Vol: 0 0 0 0 0 0 0 0 0 0 0 0 54                                     |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Initial Bse: 0 0 0 0 0 0 0 0 0 0 0 0 54                                  |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Added Vol: 233 159 49 403 176 428 358 412 248 58 493 471                 |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0                                   |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Initial Fut: 233 159 49 403 176 428 358 412 248 58 493 525               |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00    |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| PHF Volume: 233 159 49 403 176 428 358 412 248 58 493 525                |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0                                    |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Reduced Vol: 233 159 49 403 176 428 358 412 248 58 493 525               |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| MLF Adj: 1.00 1.05 1.05 1.00 1.00 1.00 1.00 1.05 1.00 1.00 1.05 1.00     |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Final Vol.: 233 167 52 403 176 428 358 432 248 58 518 525                |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Saturation Flow Module:  |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900         |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Adjustment: 0.95 0.96 0.96 0.95 1.00 0.85 0.95 1.00 0.85 0.95 1.00 0.85  |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Lanes: 1.00 1.53 0.47 1.00 1.00 1.00 1.00 2.00 1.00 1.00 2.00 1.00       |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Final Sat.: 1805 2782 866 1805 1900 1615 1805 3800 1615 1805 3800 1615   |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Capacity Analysis Module:  |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Vol/Sat: 0.13 0.06 0.06 0.22 0.09 0.27 0.20 0.11 0.15 0.03 0.14 0.33     |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Crit Moves: ****   |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Green/Cycle: 0.16 0.20 0.20 0.28 0.32 0.32 0.24 0.20 0.20 0.24 0.20 0.48 |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Volume/Cap: 0.83 0.30 0.30 0.81 0.29 0.83 0.81 0.57 0.77 0.13 0.68 0.68  |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Level Of Service Module:   |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Delay/Veh: 39.0 22.1 22.1 28.6 16.5 25.9 30.5 23.8 27.3 19.1 25.7 14.9   |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| AdjDel/Veh: 39.0 22.1 22.1 28.6 16.5 25.9 30.5 23.8 27.3 19.1 25.7 14.9  |                          |  |  |  |  |  |  |  |  |  |  |  |          |
| Queue: 8 4 1 12 4 12 11 11 7 1 14 12                                     |                          |  |  |  |  |  |  |  |  |  |  |  |          |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #7 Middle Harbor/New Mddl Hrbr Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.736  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 16.8  
Optimal Cycle: 86 Level Of Service: C

| Approach:   | North Bound |   |    | South Bound |   |   | East Bound |    |    | West Bound |    |   |
|-------------|-------------|---|----|-------------|---|---|------------|----|----|------------|----|---|
| Movement:   | L           | T | R  | L           | T | R | L          | T  | R  | L          | T  | R |
| Control:    | Protected   |   |    | Protected   |   |   | Protected  |    |    | Protected  |    |   |
| Rights:     | Include     |   |    | Include     |   |   | Include    |    |    | Include    |    |   |
| Min. Green: | 10          | 0 | 20 | 0           | 0 | 0 | 0          | 20 | 20 | 10         | 20 | 0 |
| Lanes:      | 1           | 0 | 0  | 0           | 0 | 0 | 0          | 0  | 1  | 1          | 0  | 2 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 53   | 0    | 45   | 0    | 0    | 0    | 0    | 0    | 39   | 208  | 338  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 53   | 0    | 45   | 0    | 0    | 0    | 0    | 0    | 39   | 208  | 338  | 0    |
| Added Vol:   | 0    | 0    | 419  | 0    | 0    | 0    | 0    | 205  | 0    | 478  | 343  | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 53   | 0    | 464  | 0    | 0    | 0    | 0    | 205  | 39   | 686  | 681  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 53   | 0    | 464  | 0    | 0    | 0    | 0    | 205  | 39   | 686  | 681  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 53   | 0    | 464  | 0    | 0    | 0    | 0    | 205  | 39   | 686  | 681  | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.00 |
| Final Vol.:  | 53   | 0    | 464  | 0    | 0    | 0    | 0    | 215  | 41   | 686  | 715  | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 0.98 | 0.95 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.68 | 0.32 | 1.00 | 2.00 | 0.00 |
| Final Sat.: | 1805 | 0    | 1615 | 0    | 0    | 0    | 0    | 3128 | 596  | 1805 | 3800 | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.03 | 0.00 | 0.29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.07 | 0.38 | 0.19 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.34 | 0.00 | 0.34 | 0.00 | 0.00 | 0.00 | 0.00 | 0.20 | 0.20 | 0.46 | 0.66 | 0.00 |
| Volume/Cap:  | 0.09 | 0.00 | 0.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.34 | 0.34 | 0.83 | 0.29 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 14.3 | 0.0  | 26.8 | 0.0  | 0.0  | 0.0  | 0.0  | 22.3 | 22.3 | 20.7 | 4.7  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 14.3 | 0.0  | 26.8 | 0.0  | 0.0  | 0.0  | 0.0  | 22.3 | 22.3 | 20.7 | 4.7  | 0.0  |
| Queue:       | 1    | 0    | 13   | 0    | 0    | 0    | 0    | 5    | 1    | 18   | 8    | 0    |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.705  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 111.2  
Optimal Cycle: 92 Level Of Service: F

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound  |    |    | West Bound  |    |    |
|-------------|-------------|----|----|-------------|----|----|-------------|----|----|-------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L           | T  | R  | L           | T  | R  |
| Control:    | Split Phase |    |    | Split Phase |    |    | Split Phase |    |    | Split Phase |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include     |    |    | Include     |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10          | 20 | 20 | 10          | 20 | 20 |
| Lanes:      | 0           | 1  | 0  | 0           | 1  | 0  | 0           | 1  | 0  | 0           | 1  | 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 8    | 0    | 31   | 26   | 0    | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 8    | 0    | 31   | 26   | 0    | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| Added Vol:   | 0    | 828  | 0    | 0    | 1113 | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 8    | 828  | 31   | 26   | 1113 | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 8    | 828  | 31   | 26   | 1113 | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 8    | 828  | 31   | 26   | 1113 | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 |
| Final Vol.:  | 8    | 870  | 33   | 27   | 1169 | 27   | 8    | 6    | 29   | 53   | 62   | 59   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.99 | 0.99 | 0.99 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.85 | 0.94 | 0.94 | 0.94 |
| Lanes:      | 0.02 | 1.91 | 0.07 | 0.04 | 1.92 | 0.04 | 0.57 | 0.43 | 1.00 | 0.61 | 0.71 | 0.68 |
| Final Sat.: | 33   | 3593 | 136  | 84   | 3632 | 84   | 1053 | 790  | 1615 | 1089 | 1273 | 1212 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.24 | 0.24 | 0.24 | 0.32 | 0.32 | 0.32 | 0.01 | 0.01 | 0.02 | 0.05 | 0.05 | 0.05 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.21 | 0.21 | 0.21 | 0.27 | 0.27 | 0.27 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Volume/Cap:  | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 | 0.04 | 0.04 | 0.09 | 0.24 | 0.24 | 0.24 |

Level Of Service Module:

|              |       |      |       |       |      |       |      |      |      |      |      |      |
|--------------|-------|------|-------|-------|------|-------|------|------|------|------|------|------|
| Delay/Veh:   | 123.4 | 123  | 123.4 | 118.0 | 118  | 118.0 | 20.8 | 20.8 | 21.1 | 21.8 | 21.8 | 21.8 |
| User DelAdj: | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 123.4 | 123  | 123.4 | 118.0 | 118  | 118.0 | 20.8 | 20.8 | 21.1 | 21.8 | 21.8 | 21.8 |
| Queue:       | 1     | 52   | 3     | 3     | 69   | 3     | 0    | 0    | 1    | 1    | 1    | 1    |





|   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
|---|--------------------------|------|-------|--------------------------|------|-------|-------------|------|-------|-------------|-----------|-------|--|
| C-AM.CMD  | Tue Nov 5, 1996 13:07:09 |      |       |                          |      |       |             |      |       |             | Page 14-1 |       |  |
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>AM Peak Hour     |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Level Of Service Computation Report<br>1994 HCM Operations Method (Future Volume Alternative) |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| *****   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp  |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| *****   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Cycle (sec):  | 100                      |      |       | Critical Vol./Cap. (X):  |      |       |             |      |       |             | 0.789     |       |  |
| Loss Time (sec):  | 12 (Y+R = 4 sec)         |      |       | Average Delay (sec/veh): |      |       |             |      |       |             | 28.2      |       |  |
| Optimal Cycle:  | 82                       |      |       | Level Of Service:        |      |       |             |      |       |             | D         |       |  |
| *****   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Approach:   | North Bound              |      |       | South Bound              |      |       | East Bound  |      |       | West Bound  |           |       |  |
| Movement:   | L                        | T    | R     | L                        | T    | R     | L           | T    | R     | L           | T         | R     |  |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Control:  | Protected                |      |       | Protected                |      |       | Split Phase |      |       | Split Phase |           |       |  |
| Rights:   | Ovl                      |      |       | Include                  |      |       | Include     |      |       | Include     |           |       |  |
| Min. Green:   | 10                       | 20   | 20    | 10                       | 20   | 20    | 10          | 10   | 20    | 10          | 20        | 20    |  |
| Lanes:  | 1                        | 0    | 1 1 0 | 1                        | 0    | 1 1 0 | 1           | 1    | 0 1 0 | 1           | 0         | 0 1 1 |  |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Volume Module:  |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Base Vol:   | 0                        | 0    | 0     | 72                       | 109  | 165   | 256         | 51   | 0     | 0           | 169       | 364   |  |
| Growth Adj:   | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |  |
| Initial Bse:  | 0                        | 0    | 0     | 72                       | 109  | 165   | 256         | 51   | 0     | 0           | 169       | 364   |  |
| Added Vol:  | 92                       | 163  | 573   | 0                        | 233  | 0     | 0           | 0    | 171   | 710         | 0         | 0     |  |
| PasserByVol:  | 0                        | 0    | 0     | 0                        | 0    | 0     | 0           | 0    | 0     | 0           | 0         | 0     |  |
| Initial Fut:  | 92                       | 163  | 573   | 72                       | 342  | 165   | 256         | 51   | 171   | 710         | 169       | 364   |  |
| User Adj:   | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 0.50  |  |
| PHF Adj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |  |
| PHF Volume:   | 92                       | 163  | 573   | 72                       | 342  | 165   | 256         | 51   | 171   | 710         | 169       | 182   |  |
| Reduct Vol:   | 0                        | 0    | 0     | 0                        | 0    | 0     | 0           | 0    | 0     | 0           | 0         | 0     |  |
| Reduced Vol:  | 92                       | 163  | 573   | 72                       | 342  | 165   | 256         | 51   | 171   | 710         | 169       | 182   |  |
| PCE Adj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |  |
| MLF Adj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.05 | 1.05  | 1.05        | 1.00 | 1.00  | 1.00        | 1.05      | 1.05  |  |
| Final Vol.:   | 92                       | 163  | 573   | 72                       | 359  | 173   | 269         | 51   | 171   | 710         | 177       | 191   |  |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Saturation Flow Module:   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Sat/Lane:   | 1900                     | 1900 | 1900  | 1900                     | 1900 | 1900  | 1900        | 1900 | 1900  | 1900        | 1900      | 1900  |  |
| Adjustment:   | 0.95                     | 1.00 | 0.85  | 0.95                     | 0.95 | 0.95  | 0.95        | 0.88 | 0.88  | 0.95        | 0.92      | 0.92  |  |
| Lanes:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.35 | 0.65  | 1.66        | 0.34 | 1.00  | 1.00        | 0.96      | 1.04  |  |
| Final Sat.:   | 1805                     | 1900 | 1615  | 1805                     | 2436 | 1174  | 2997        | 568  | 1672  | 1805        | 1682      | 1815  |  |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Capacity Analysis Module:   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Vol/Sat:  | 0.05                     | 0.09 | 0.35  | 0.04                     | 0.15 | 0.15  | 0.09        | 0.09 | 0.10  | 0.39        | 0.11      | 0.11  |  |
| Crit Moves:   | ****                     |      |       | ****                     |      |       |             |      | ****  | ****        |           |       |  |
| Green/Cycle:  | 0.10                     | 0.20 | 0.58  | 0.10                     | 0.20 | 0.20  | 0.20        | 0.20 | 0.20  | 0.38        | 0.38      | 0.38  |  |
| Volume/Cap:   | 0.51                     | 0.43 | 0.61  | 0.40                     | 0.74 | 0.74  | 0.45        | 0.45 | 0.51  | 1.04        | 0.28      | 0.28  |  |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Level Of Service Module:  |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Delay/Veh:  | 29.5                     | 22.7 | 9.5   | 28.0                     | 27.0 | 27.0  | 22.9        | 22.9 | 23.4  | 56.1        | 13.9      | 13.9  |  |
| User DelAdj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |  |
| AdjDel/Veh:   | 29.5                     | 22.7 | 9.5   | 28.0                     | 27.0 | 27.0  | 22.9        | 22.9 | 23.4  | 56.1        | 13.9      | 13.9  |  |
| Queue:  | 3                        | 4    | 11    | 2                        | 10   | 5     | 7           | 1    | 4     | 29          | 3         | 4     |  |
| *****   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |

|   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
|---|--------------------------|------|-------|--------------------------|------|-------|-------------|------|-------|-------------|-----------|-------|--|
| C-AM.CMD  | Tue Nov 5, 1996 13:07:09 |      |       |                          |      |       |             |      |       |             | Page 15-1 |       |  |
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>AM Peak Hour     |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Level Of Service Computation Report<br>1994 HCM Operations Method (Future Volume Alternative) |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| *****   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Intersection #14 Union St./ 5th St./ I-880 North Ramps  |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| *****   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Cycle (sec):  | 100                      |      |       | Critical Vol./Cap. (X):  |      |       |             |      |       |             | 0.137     |       |  |
| Loss Time (sec):  | 11 (Y+R = 4 sec)         |      |       | Average Delay (sec/veh): |      |       |             |      |       |             | 17.0      |       |  |
| Optimal Cycle:  | 71                       |      |       | Level Of Service:        |      |       |             |      |       |             | C         |       |  |
| *****   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Approach:   | North Bound              |      |       | South Bound              |      |       | East Bound  |      |       | West Bound  |           |       |  |
| Movement:   | L                        | T    | R     | L                        | T    | R     | L           | T    | R     | L           | T         | R     |  |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Control:  | Protected                |      |       | Protected                |      |       | Split Phase |      |       | Split Phase |           |       |  |
| Rights:   | Include                  |      |       | Include                  |      |       | Include     |      |       | Include     |           |       |  |
| Min. Green:   | 0                        | 20   | 20    | 0                        | 20   | 20    | 10          | 20   | 20    | 10          | 20        | 20    |  |
| Lanes:  | 0                        | 0    | 1 1 1 | 0                        | 0    | 1 1 0 | 0           | 1    | 0 1 0 | 1           | 0         | 1 1 0 |  |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Volume Module:  |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Base Vol:   | 0                        | 175  | 45    | 0                        | 154  | 31    | 24          | 43   | 13    | 205         | 31        | 115   |  |
| Growth Adj:   | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |  |
| Initial Bse:  | 0                        | 175  | 45    | 0                        | 154  | 31    | 24          | 43   | 13    | 205         | 31        | 115   |  |
| Added Vol:  | 0                        | 0    | 171   | 0                        | 0    | 0     | 0           | 0    | 0     | 92          | 0         | 0     |  |
| PasserByVol:  | 0                        | 0    | 0     | 0                        | 0    | 0     | 0           | 0    | 0     | 0           | 0         | 0     |  |
| Initial Fut:  | 0                        | 175  | 216   | 0                        | 154  | 31    | 24          | 43   | 13    | 297         | 31        | 115   |  |
| User Adj:   | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |  |
| PHF Adj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |  |
| PHF Volume:   | 0                        | 175  | 216   | 0                        | 154  | 31    | 24          | 43   | 13    | 297         | 31        | 115   |  |
| Reduct Vol:   | 0                        | 0    | 0     | 0                        | 0    | 0     | 0           | 0    | 0     | 0           | 0         | 0     |  |
| Reduced Vol:  | 0                        | 175  | 216   | 0                        | 154  | 31    | 24          | 43   | 13    | 297         | 31        | 115   |  |
| PCE Adj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |  |
| MLF Adj:  | 1.00                     | 1.10 | 1.10  | 1.00                     | 1.05 | 1.05  | 1.05        | 1.05 | 1.05  | 1.00        | 1.00      | 1.00  |  |
| Final Vol.:   | 0                        | 193  | 238   | 0                        | 162  | 33    | 25          | 45   | 14    | 297         | 31        | 115   |  |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Saturation Flow Module:   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Sat/Lane:   | 1900                     | 1900 | 1900  | 1900                     | 1900 | 1900  | 1900        | 1900 | 1900  | 1900        | 1900      | 1900  |  |
| Adjustment:   | 1.00                     | 0.92 | 0.92  | 1.00                     | 0.97 | 0.97  | 0.96        | 0.96 | 0.96  | 0.95        | 1.00      | 0.85  |  |
| Lanes:  | 0.00                     | 1.34 | 1.66  | 0.00                     | 1.66 | 0.34  | 0.60        | 1.07 | 0.33  | 1.00        | 1.00      | 1.00  |  |
| Final Sat.:   | 0                        | 2348 | 2896  | 0                        | 3062 | 624   | 1086        | 1955 | 608   | 1805        | 1900      | 1615  |  |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Capacity Analysis Module:   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Vol/Sat:  | 0.00                     | 0.08 | 0.08  | 0.00                     | 0.05 | 0.05  | 0.02        | 0.02 | 0.02  | 0.16        | 0.02      | 0.07  |  |
| Crit Moves:   | ****                     |      |       | ****                     |      |       | ****        |      |       | ****        |           |       |  |
| Green/Cycle:  | 0.00                     | 0.23 | 0.23  | 0.00                     | 0.23 | 0.23  | 0.20        | 0.20 | 0.20  | 0.46        | 0.46      | 0.46  |  |
| Volume/Cap:   | 0.00                     | 0.36 | 0.36  | 0.00                     | 0.23 | 0.23  | 0.12        | 0.12 | 0.12  | 0.36        | 0.04      | 0.15  |  |
| ----- ----- ----- -----   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Level Of Service Module:  |                          |      |       |                          |      |       |             |      |       |             |           |       |  |
| Delay/Veh:  | 0.0                      | 21.0 | 21.0  | 0.0                      | 20.3 | 20.3  | 21.2        | 21.2 | 21.2  | 11.4        | 9.6       | 10.1  |  |
| User DelAdj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00        | 1.00 | 1.00  | 1.00        | 1.00      | 1.00  |  |
| AdjDel/Veh:   | 0.0                      | 21.0 | 21.0  | 0.0                      | 20.3 | 20.3  | 21.2        | 21.2 | 21.2  | 11.4        | 9.6       | 10.1  |  |
| Queue:  | 0                        | 5    | 6     | 0                        | 4    | 1     | 1           | 1    | 0     | 5           | 0         | 2     |  |
| *****   |                          |      |       |                          |      |       |             |      |       |             |           |       |  |



Table J.7-7 (Continued)

|   |                          |      |      |                          |             |      |      |   |            |      |           |   |            |      |      |
|---|--------------------------|------|------|--------------------------|-------------|------|------|---|------------|------|-----------|---|------------|------|------|
| C-AM.CMD  | Tue Nov 5, 1996 13:07:09 |      |      |                          |             |      |      |   |            |      | Page 16-1 |   |            |      |      |
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>AM Peak Hour     |                          |      |      |                          |             |      |      |   |            |      |           |   |            |      |      |
| Level Of Service Computation Report<br>1994 HCM Operations Method (Future Volume Alternative) |                          |      |      |                          |             |      |      |   |            |      |           |   |            |      |      |
| Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.                                       |                          |      |      |                          |             |      |      |   |            |      |           |   |            |      |      |
| Cycle (sec):  | 100                      |      |      | Critical Vol./Cap. (X):  |             |      |      |   |            |      | 0.605     |   |            |      |      |
| Loss Time (sec):  | 10 (Y+R = 4 sec)         |      |      | Average Delay (sec/veh): |             |      |      |   |            |      | 22.8      |   |            |      |      |
| Optimal Cycle:  | 70                       |      |      | Level Of Service:        |             |      |      |   |            |      | C         |   |            |      |      |
| Approach:   | North Bound              |      |      |                          | South Bound |      |      |   | East Bound |      |           |   | West Bound |      |      |
| Movement:   | L                        | -    | T    | -                        | R           | L    | -    | T | -          | R    | L         | - | T          | -    | R    |
| Control:  | Protected                |      |      |                          | Protected   |      |      |   | Protected  |      |           |   | Protected  |      |      |
| Rights:   | Include                  |      |      |                          | Ovl         |      |      |   | Include    |      |           |   | Include    |      |      |
| Min. Green:   | 10                       | 20   | 20   |                          | 10          | 20   | 20   |   | 10         | 20   | 20        |   | 0          | 20   | 20   |
| Lanes:  | 2                        | 0    | 0    | 1                        | 0           | 1    | 0    | 0 | 0          | 2    | 1         | 0 | 2          | 0    | 0    |
| Volume Module:  |                          |      |      |                          |             |      |      |   |            |      |           |   |            |      |      |
| Base Vol:   | 0                        | 548  | 21   |                          | 17          | 0    | 94   |   | 0          | 16   | 0         |   | 0          | 62   | 1    |
| Growth Adj:   | 1.00                     | 1.00 | 1.00 |                          | 1.00        | 1.00 | 1.00 |   | 1.00       | 1.00 | 1.00      |   | 1.00       | 1.00 | 1.00 |
| Initial Bse:  | 0                        | 548  | 21   |                          | 17          | 0    | 94   |   | 0          | 16   | 0         |   | 0          | 62   | 1    |
| Added Vol:  | 575                      | 0    | 0    |                          | 0           | 0    | 436  |   | 383        | 3    | 0         |   | 0          | 12   | 0    |
| PasserByVol:  | 0                        | 0    | 0    |                          | 0           | 0    | 0    |   | 0          | 0    | 0         |   | 0          | 0    | 0    |
| Initial Fut:  | 575                      | 548  | 21   |                          | 17          | 0    | 530  |   | 383        | 19   | 0         |   | 0          | 74   | 1    |
| User Adj:   | 1.00                     | 1.00 | 1.00 |                          | 1.00        | 1.00 | 1.00 |   | 1.00       | 1.00 | 1.00      |   | 1.00       | 1.00 | 1.00 |
| PHF Adj:  | 1.00                     | 1.00 | 1.00 |                          | 1.00        | 1.00 | 1.00 |   | 1.00       | 1.00 | 1.00      |   | 1.00       | 1.00 | 1.00 |
| PHF Volume:   | 575                      | 548  | 21   |                          | 17          | 0    | 530  |   | 383        | 19   | 0         |   | 0          | 74   | 1    |
| Reduct Vol:   | 0                        | 0    | 0    |                          | 0           | 0    | 0    |   | 0          | 0    | 0         |   | 0          | 0    | 0    |
| Reduced Vol:  | 575                      | 548  | 21   |                          | 17          | 0    | 530  |   | 383        | 19   | 0         |   | 0          | 74   | 1    |
| PCE Adj:  | 1.00                     | 1.00 | 1.00 |                          | 1.00        | 1.00 | 1.00 |   | 1.00       | 1.00 | 1.00      |   | 1.00       | 1.00 | 1.00 |
| MLF Adj:  | 1.03                     | 1.00 | 1.00 |                          | 1.00        | 1.00 | 1.13 |   | 1.00       | 1.05 | 1.00      |   | 1.00       | 1.05 | 1.05 |
| Final Vol.:   | 592                      | 548  | 21   |                          | 17          | 0    | 598  |   | 383        | 20   | 0         |   | 0          | 77   | 1    |
| Saturation Flow Module:   |                          |      |      |                          |             |      |      |   |            |      |           |   |            |      |      |
| Sat/Lane:   | 1900                     | 1900 | 1900 |                          | 1900        | 1900 | 1900 |   | 1900       | 1900 | 1900      |   | 1900       | 1900 | 1900 |
| Adjustment:   | 0.95                     | 0.99 | 0.99 |                          | 0.95        | 1.00 | 0.85 |   | 0.95       | 1.00 | 1.00      |   | 1.00       | 1.00 | 1.00 |
| Lanes:  | 2.00                     | 0.96 | 0.04 |                          | 1.00        | 0.00 | 2.00 |   | 1.00       | 2.00 | 0.00      |   | 0.00       | 1.97 | 0.03 |
| Final Sat.:   | 3610                     | 1812 | 69   |                          | 1805        | 0    | 3230 |   | 1805       | 3800 | 0         |   | 0          | 3751 | 49   |
| Capacity Analysis Module:   |                          |      |      |                          |             |      |      |   |            |      |           |   |            |      |      |
| Vol/Sat:  | 0.16                     | 0.30 | 0.30 |                          | 0.01        | 0.00 | 0.19 |   | 0.21       | 0.01 | 0.00      |   | 0.00       | 0.02 | 0.02 |
| Crit Moves:   | ****                     |      |      |                          | ****        |      |      |   | ****       |      |           |   | ****       |      |      |
| Green/Cycle:  | 0.25                     | 0.35 | 0.35 |                          | 0.10        | 0.00 | 0.45 |   | 0.25       | 0.45 | 0.00      |   | 0.00       | 0.20 | 0.20 |
| Volume/Cap:   | 0.65                     | 0.86 | 0.86 |                          | 0.09        | 0.00 | 0.41 |   | 0.86       | 0.01 | 0.00      |   | 0.00       | 0.10 | 0.10 |
| Level Of Service Module:  |                          |      |      |                          |             |      |      |   |            |      |           |   |            |      |      |
| Delay/Veh:  | 22.7                     | 27.1 | 27.1 |                          | 26.4        | 0.0  | 12.2 |   | 33.9       | 9.9  | 0.0       |   | 0.0        | 21.1 | 21.1 |
| User DelAdj:  | 1.00                     | 1.00 | 1.00 |                          | 1.00        | 1.00 | 1.00 |   | 1.00       | 1.00 | 1.00      |   | 1.00       | 1.00 | 1.00 |
| AdjDel/Veh:   | 22.7                     | 27.1 | 27.1 |                          | 26.4        | 0.0  | 12.2 |   | 33.9       | 9.9  | 0.0       |   | 0.0        | 21.1 | 21.1 |
| Queue:  | 15                       | 16   | 1    |                          | 0           | 0    | 11   |   | 12         | 0    | 0         |   | 0          | 2    | 0    |

|   |                          |      |      |                          |      |      |            |      |      |            |           |      |   |   |   |
|---|--------------------------|------|------|--------------------------|------|------|------------|------|------|------------|-----------|------|---|---|---|
| C-AM.CMD  | Tue Nov 5, 1996 13:07:09 |      |      |                          |      |      |            |      |      |            | Page 17-1 |      |   |   |   |
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>AM Peak Hour     |                          |      |      |                          |      |      |            |      |      |            |           |      |   |   |   |
| Level Of Service Computation Report<br>1994 HCM Operations Method (Future Volume Alternative) |                          |      |      |                          |      |      |            |      |      |            |           |      |   |   |   |
| Intersection #16 7th St./ I-880 SB Ramps  |                          |      |      |                          |      |      |            |      |      |            |           |      |   |   |   |
| Cycle (sec):  | 100                      |      |      | Critical Vol./Cap. (X):  |      |      |            |      |      | 0.331      |           |      |   |   |   |
| Loss Time (sec):  | 5 (Y+R = 4 sec)          |      |      | Average Delay (sec/veh): |      |      |            |      |      | 1.4        |           |      |   |   |   |
| Optimal Cycle:  | 35                       |      |      | Level Of Service:        |      |      |            |      |      | A          |           |      |   |   |   |
| Approach:   | North Bound              |      |      | South Bound              |      |      | East Bound |      |      | West Bound |           |      |   |   |   |
| Movement:   | L                        | T    | R    | L                        | T    | R    | L          | T    | R    | L          | T         | R    |   |   |   |
| Control:  | Protected                |      |      | Protected                |      |      | Protected  |      |      | Protected  |           |      |   |   |   |
| Rights:   | Include                  |      |      | Include                  |      |      | Include    |      |      | Include    |           |      |   |   |   |
| Min. Green:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 20   | 20   | 10         | 20        | 20   |   |   |   |
| Lanes:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 2    | 0    | 1          | 2         | 0    | 2 | 0 | 0 |
| Volume Module:  |                          |      |      |                          |      |      |            |      |      |            |           |      |   |   |   |
| Base Vol:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 65         | 0         | 0    |   |   |   |
| Growth Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |
| Initial Bse:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 65         | 0         | 0    |   |   |   |
| Added Vol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 386  | 478  | 0          | 1022      | 0    |   |   |   |
| PasserByVol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |   |   |   |
| Initial Fut:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 386  | 478  | 65         | 1022      | 0    |   |   |   |
| User Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |
| PHF Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |
| PHF Volume:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 386  | 478  | 65         | 1022      | 0    |   |   |   |
| Reduct Vol:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |   |   |   |
| Reduced Vol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 386  | 478  | 65         | 1022      | 0    |   |   |   |
| PCE Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |
| MLF Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.05 | 1.00 | 1.03       | 1.05      | 1.00 |   |   |   |
| Final Vol.:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 405  | 478  | 67         | 1073      | 0    |   |   |   |
| Saturation Flow Module:   |                          |      |      |                          |      |      |            |      |      |            |           |      |   |   |   |
| Sat/Lane:   | 1900                     | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900      | 1900 |   |   |   |
| Adjustment:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 0.85 | 0.95       | 1.00      | 1.00 |   |   |   |
| Lanes:  | 0.00                     | 0.00 | 0.00 | 0.00                     | 0.00 | 0.00 | 0.00       | 2.00 | 1.00 | 2.00       | 2.00      | 0.00 |   |   |   |
| Final Sat.:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 3800 | 1615 | 3610       | 3800      | 0    |   |   |   |
| Capacity Analysis Module:   |                          |      |      |                          |      |      |            |      |      |            |           |      |   |   |   |
| Vol/Sat:  | 0.00                     | 0.00 | 0.00 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.11 | 0.30 | 0.02       | 0.28      | 0.00 |   |   |   |
| Crit Moves:   |                          |      |      |                          |      |      |            |      |      |            | ****      | **** |   |   |   |
| Green/Cycle:  | 0.00                     | 0.00 | 0.00 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.85 | 0.85 | 0.10       | 0.95      | 0.00 |   |   |   |
| Volume/Cap:   | 0.00                     | 0.00 | 0.00 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.13 | 0.35 | 0.19       | 0.30      | 0.00 |   |   |   |
| Level Of Service Module:  |                          |      |      |                          |      |      |            |      |      |            |           |      |   |   |   |
| Delay/Veh:  | 0.0                      | 0.0  | 0.0  | 0.0                      | 0.0  | 0.0  | 0.0        | 0.8  | 1.1  | 26.7       | 0.1       | 0.0  |   |   |   |
| User DelAdj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |
| AdjDel/Veh:   | 0.0                      | 0.0  | 0.0  | 0.0                      | 0.0  | 0.0  | 0.0        | 0.8  | 1.1  | 26.7       | 0.1       | 0.0  |   |   |   |
| Queue:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 2    | 3    | 2          | 2         | 0    |   |   |   |

|   |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
|---|--------------------------|-------|--------|------------------------------|-------|--------|------------|-------|--------|------------|-----------|--------|---|
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| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>AM Peak Hour       |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| Level Of Service Computation Report<br>1994 HCM Unsignalized Method (Future Volume Alternative) |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| *****<br>Intersection #17 14th St./ I-880 Frontage Rd.<br>*****                                 |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| Average Delay (sec/veh):  |                          | 3.9   |        | Worst Case Level Of Service: |       |        |            |       |        |            |           | D      |   |
| *****   |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| Approach:   | North Bound              |       |        | South Bound                  |       |        | East Bound |       |        | West Bound |           |        |   |
| Movement:   | L                        | T     | R      | L                            | T     | R      | L          | T     | R      | L          | T         | R      |   |
| ----- ----- ----- -----   |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| Control:  | Uncontrolled             |       |        | Uncontrolled                 |       |        | Stop Sign  |       |        | Stop Sign  |           |        |   |
| Rights:   | Include                  |       |        | Include                      |       |        | Include    |       |        | Include    |           |        |   |
| Lanes:  | 0                        | 0     | 1      | 1                            | 0     | 1      | 0          | 2     | 0      | 0          | 0         | 0      | 1 |
| ----- ----- ----- -----   |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| Volume Module:  |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| Base Vol:   | 0                        | 0     | 89     | 30                           | 0     | 0      | 0          | 0     | 0      | 140        | 0         | 6      |   |
| Growth Adj:   | 1.00                     | 1.00  | 1.00   | 1.00                         | 1.00  | 1.00   | 1.00       | 1.00  | 1.00   | 1.00       | 1.00      | 1.00   |   |
| Initial Bse:  | 0                        | 0     | 89     | 30                           | 0     | 0      | 0          | 0     | 0      | 140        | 0         | 6      |   |
| Added Vol:  | 0                        | 383   | 0      | 0                            | 436   | 0      | 0          | 0     | 0      | 0          | 0         | 0      |   |
| PasserByVol:  | 0                        | 0     | 0      | 0                            | 0     | 0      | 0          | 0     | 0      | 0          | 0         | 0      |   |
| Initial Fut:  | 0                        | 383   | 89     | 30                           | 436   | 0      | 0          | 0     | 0      | 140        | 0         | 6      |   |
| User Adj:   | 1.00                     | 1.00  | 1.00   | 1.00                         | 1.00  | 1.00   | 1.00       | 1.00  | 1.00   | 1.00       | 1.00      | 1.00   |   |
| PHF Adj:  | 1.00                     | 1.00  | 1.00   | 1.00                         | 1.00  | 1.00   | 1.00       | 1.00  | 1.00   | 1.00       | 1.00      | 1.00   |   |
| PHF Volume:   | 0                        | 383   | 89     | 30                           | 436   | 0      | 0          | 0     | 0      | 140        | 0         | 6      |   |
| Reduct Vol:   | 0                        | 0     | 0      | 0                            | 0     | 0      | 0          | 0     | 0      | 0          | 0         | 0      |   |
| Final Vol.:   | 0                        | 383   | 89     | 30                           | 436   | 0      | 0          | 0     | 0      | 140        | 0         | 6      |   |
| Adjusted Volume Module:   |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| Grade:  | 0%                       |       |        | 0%                           |       |        | 0%         |       |        | 0%         |           |        |   |
| % Cycle/Cars:   | xxxx                     | xxxx  | xxxx   | xxxx                         | xxxx  | xxxx   | xxxx       | xxxx  | xxxx   | xxxx       | xxxx      | xxxx   |   |
| % Truck/Comb:   | xxxx                     | xxxx  | xxxx   | xxxx                         | xxxx  | xxxx   | xxxx       | xxxx  | xxxx   | xxxx       | xxxx      | xxxx   |   |
| PCE Adj:  | 1.10                     | 1.00  | 1.00   | 1.10                         | 1.00  | 1.00   | 1.10       | 1.10  | 1.10   | 1.10       | 1.10      | 1.10   |   |
| Cycl/Car PCE:   | xxxx                     | xxxx  | xxxx   | xxxx                         | xxxx  | xxxx   | xxxx       | xxxx  | xxxx   | xxxx       | xxxx      | xxxx   |   |
| Trck/Cmb PCE:   | xxxx                     | xxxx  | xxxx   | xxxx                         | xxxx  | xxxx   | xxxx       | xxxx  | xxxx   | xxxx       | xxxx      | xxxx   |   |
| Adj Vol.:   | 0                        | 383   | 89     | 33                           | 436   | 0      | 0          | 0     | 0      | 154        | 0         | 7      |   |
| Critical Gap Module:  |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| MoveUp Time:  | xxxxxx                   | xxxx  | xxxxxx | 2.1                          | xxxx  | xxxxxx | xxxxxx     | xxxx  | xxxxxx | 3.4        | xxxx      | 2.6    |   |
| Critical Gp:  | xxxxxx                   | xxxx  | xxxxxx | 5.5                          | xxxx  | xxxxxx | xxxxxx     | xxxx  | xxxxxx | 7.0        | xxxx      | 5.5    |   |
| ----- ----- ----- -----   |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| Capacity Module:  |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| Cnflct Vol:   | xxxx                     | xxxx  | xxxxxx | 472                          | xxxx  | xxxxxx | xxxx       | xxxx  | xxxxxx | 893        | xxxx      | 236    |   |
| Potent Cap.:  | xxxx                     | xxxx  | xxxxxx | 956                          | xxxx  | xxxxxx | xxxx       | xxxx  | xxxxxx | 284        | xxxx      | 1051   |   |
| Adj Cap:  | xxxx                     | xxxx  | xxxxxx | 1.00                         | xxxx  | xxxxxx | xxxx       | xxxx  | xxxxxx | 0.97       | xxxx      | 1.00   |   |
| Move Cap.:  | xxxx                     | xxxx  | xxxxxx | 956                          | xxxx  | xxxxxx | xxxx       | xxxx  | xxxxxx | 274        | xxxx      | 1051   |   |
| ----- ----- ----- -----   |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| Level Of Service Module:  |                          |       |        |                              |       |        |            |       |        |            |           |        |   |
| Stopped Del:  | xxxxxx                   | xxxx  | xxxxxx | 3.9                          | xxxx  | xxxxxx | xxxxxx     | xxxx  | xxxxxx | 26.6       | xxxx      | 3.4    |   |
| LOS by Move:  | *                        | *     | *      | A                            | *     | *      | *          | *     | *      | D          | *         | A      |   |
| Movement:   | LT                       | - LTR | - RT   | LT                           | - LTR | - RT   | LT         | - LTR | - RT   | LT         | - LTR     | - RT   |   |
| Shared Cap.:  | xxxx                     | xxxx  | xxxxxx | xxxx                         | xxxx  | xxxxxx | xxxx       | xxxx  | xxxxxx | xxxx       | xxxx      | xxxxxx |   |
| Shrd StpDel:  | xxxxxx                   | xxxx  | xxxxxx | xxxxxx                       | xxxx  | xxxxxx | xxxxxx     | xxxx  | xxxxxx | xxxxxx     | xxxx      | xxxxxx |   |
| Shared LOS:   | *                        | *     | *      | *                            | *     | *      | *          | *     | *      | *          | *         | *      |   |
| ApproachDel:  | 0.0                      |       |        | 0.3                          |       |        | 0.0        |       |        | 25.6       |           |        |   |

|   |                          |                          |      |             |      |      |            |      |      |            |           |      |
|---|--------------------------|--------------------------|------|-------------|------|------|------------|------|------|------------|-----------|------|
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| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>AM Peak Hour     |                          |                          |      |             |      |      |            |      |      |            |           |      |
| Level Of Service Computation Report<br>1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |            |      |      |            |           |      |
| *****<br>Intersection #18 W.Grand Ave./ I-880 Frontage Rd.<br>*****                           |                          |                          |      |             |      |      |            |      |      |            |           |      |
| Cycle (sec):  | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      | 0.544      |           |      |
| Loss Time (sec):  | 11 (Y+R = 4 sec)         | Average Delay (sec/veh): |      |             |      |      |            |      |      | 21.2       |           |      |
| Optimal Cycle:  | 81                       | Level Of Service:        |      |             |      |      |            |      |      | C          |           |      |
| *****   |                          |                          |      |             |      |      |            |      |      |            |           |      |
| Approach:   | North Bound              |                          |      | South Bound |      |      | East Bound |      |      | West Bound |           |      |
| Movement:   | L                        | T                        | R    | L           | T    | R    | L          | T    | R    | L          | T         | R    |
| ----- ----- ----- -----   |                          |                          |      |             |      |      |            |      |      |            |           |      |
| Control:  | Split Phase              |                          |      | Split Phase |      |      | Protected  |      |      | Protected  |           |      |
| Rights:   | Include                  |                          |      | Include     |      |      | Include    |      |      | Include    |           |      |
| Min. Green:   | 10                       | 20                       | 20   | 10          | 20   | 20   | 10         | 20   | 20   | 10         | 20        | 20   |
| Lanes:  | 1                        | 0                        | 1    | 1           | 0    | 1    | 0          | 1    | 1    | 0          | 1         | 1    |
| ----- ----- ----- -----   |                          |                          |      |             |      |      |            |      |      |            |           |      |
| Volume Module:  |                          |                          |      |             |      |      |            |      |      |            |           |      |
| Base Vol:   | 9                        | 0                        | 0    | 678         | 48   | 6    | 65         | 234  | 12   | 0          | 152       | 449  |
| Growth Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |
| Initial Bse:  | 9                        | 0                        | 0    | 678         | 48   | 6    | 65         | 234  | 12   | 0          | 152       | 449  |
| Added Vol:  | 0                        | 271                      | 112  | 0           | 299  | 0    | 0          | 102  | 0    | 137        | 117       | 0    |
| PasserByVol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |
| Initial Fut:  | 9                        | 271                      | 112  | 678         | 347  | 6    | 65         | 336  | 12   | 137        | 269       | 449  |
| User Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |
| PHF Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |
| PHF Volume:   | 9                        | 271                      | 112  | 678         | 347  | 6    | 65         | 336  | 12   | 137        | 269       | 449  |
| Reduct Vol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |
| Reduced Vol:  | 9                        | 271                      | 112  | 678         | 347  | 6    | 65         | 336  | 12   | 137        | 269       | 449  |
| PCE Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |
| MLF Adj:  | 1.00                     | 1.05                     | 1.05 | 1.05        | 1.00 | 1.00 | 1.00       | 1.05 | 1.05 | 1.00       | 1.10      | 1.10 |
| Final Vol.:   | 9                        | 285                      | 118  | 712         | 347  | 6    | 65         | 352  | 13   | 137        | 296       | 494  |
| ----- ----- ----- -----   |                          |                          |      |             |      |      |            |      |      |            |           |      |
| Saturation Flow Module:   |                          |                          |      |             |      |      |            |      |      |            |           |      |
| Sat/Lane:   | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900      | 1900 |
| Adjustment:   | 0.95                     | 0.96                     | 0.96 | 0.95        | 1.00 | 1.00 | 0.95       | 0.99 | 0.99 | 0.95       | 0.91      | 0.91 |
| Lanes:  | 1.00                     | 1.41                     | 0.59 | 2.00        | 0.98 | 0.02 | 1.00       | 1.93 | 0.07 | 1.00       | 1.12      | 1.88 |
| Final Sat.:   | 1805                     | 2580                     | 1068 | 3610        | 1868 | 32   | 1805       | 3628 | 134  | 1805       | 1943      | 3244 |
| ----- ----- ----- -----   |                          |                          |      |             |      |      |            |      |      |            |           |      |
| Capacity Analysis Module:   |                          |                          |      |             |      |      |            |      |      |            |           |      |
| Vol/Sat:  | 0.00                     | 0.11                     | 0.11 | 0.20        | 0.19 | 0.19 | 0.04       | 0.10 | 0.10 | 0.08       | 0.15      | 0.15 |
| Crit Moves:   | ****                     |                          |      | ****        |      |      | ****       |      |      | ****       |           |      |
| Green/Cycle:  | 0.20                     | 0.20                     | 0.20 | 0.33        | 0.33 | 0.33 | 0.10       | 0.24 | 0.24 | 0.12       | 0.26      | 0.26 |
| Volume/Cap:   | 0.02                     | 0.55                     | 0.55 | 0.59        | 0.56 | 0.56 | 0.36       | 0.41 | 0.41 | 0.64       | 0.59      | 0.59 |
| ----- ----- ----- -----   |                          |                          |      |             |      |      |            |      |      |            |           |      |
| Level Of Service Module:  |                          |                          |      |             |      |      |            |      |      |            |           |      |
| Delay/Veh:  | 20.8                     | 23.9                     | 23.9 | 18.3        | 17.9 | 17.9 | 27.7       | 20.9 | 20.9 | 31.4       | 21.6      | 21.6 |
| User DelAdj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |
| AdjDel/Veh:   | 20.8                     | 23.9                     | 23.9 | 18.3        | 17.9 | 17.9 | 27.7       | 20.9 | 20.9 | 31.4       | 21.6      | 21.6 |
| Queue:  | 0                        | 7                        | 3    | 17          | 8    | 0    | 2          | 8    | 0    | 4          | 7         | 12   |
| *****   |                          |                          |      |             |      |      |            |      |      |            |           |      |

Table J.7-8

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
PM Peak Hour

## Trip Generation Report

## Forecast for PM Peak Hour

| Zone # | Subzone          | Amount  | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|--------|------------------|---------|----------------|---------|----------|----------|-----------|-------------|------------|
| 1      | New Harbor       | 1135.00 | Employees      | 0.06    | 0.22     | 68       | 250       | 318         | 5.6        |
|        | Zone 1 Subtotal  |         |                |         |          | 68       | 250       | 318         | 5.6        |
| 3      | J.I.T.           | 208.00  | Employees      | 0.10    | 0.36     | 21       | 75        | 96          | 1.7        |
|        | Zone 3 Subtotal  |         |                |         |          | 21       | 75        | 96          | 1.7        |
| 4      | SP Rail Term     | 210.00  | Employees      | 0.10    | 0.36     | 21       | 76        | 97          | 1.7        |
|        | Zone 4 Subtotal  |         |                |         |          | 21       | 76        | 97          | 1.7        |
| 6      | Middle Harbr     | 516.00  | Employees      | 0.06    | 0.22     | 31       | 114       | 145         | 2.5        |
|        | Zone 6 Subtotal  |         |                |         |          | 31       | 114       | 145         | 2.5        |
| 7      | 7th St Harbr     | 613.00  | Employees      | 0.06    | 0.22     | 37       | 135       | 172         | 3.0        |
|        | Zone 7 Subtotal  |         |                |         |          | 37       | 135       | 172         | 3.0        |
| 8      | Outer Harbor     | 706.00  | Employees      | 0.06    | 0.21     | 42       | 148       | 190         | 3.3        |
|        | Zone 8 Subtotal  |         |                |         |          | 42       | 148       | 190         | 3.3        |
| 10     | New Park         | 1.00    | Total Trips    | 30.00   | 59.00    | 30       | 59        | 89          | 1.6        |
|        | Zone 10 Subtotal |         |                |         |          | 30       | 59        | 89          | 1.6        |
| 11     | New Harbor       | 1.00    | Trucks Inter   | 246.00  | 295.00   | 246      | 295       | 541         | 9.5        |
|        | Zone 11 Subtotal |         |                |         |          | 246      | 295       | 541         | 9.5        |
| 16     | Middle Harbr     | 1.00    | Trucks Inter   | 112.00  | 134.00   | 112      | 134       | 246         | 4.3        |
|        | Zone 16 Subtotal |         |                |         |          | 112      | 134       | 246         | 4.3        |
| 17     | 7th St Harbr     | 1.00    | Trucks Inter   | 133.00  | 159.00   | 133      | 159       | 292         | 5.1        |
|        | Zone 17 Subtotal |         |                |         |          | 133      | 159       | 292         | 5.1        |
| 18     | Outer Harbor     | 1.00    | Trucks Inter   | 153.00  | 184.00   | 153      | 184       | 337         | 5.9        |
|        | Zone 18 Subtotal |         |                |         |          | 153      | 184       | 337         | 5.9        |
| 21     | New Harbor       | 1.00    | Truck External | 418.00  | 501.00   | 418      | 501       | 919         | 16.1       |
|        | Zone 21 Subtotal |         |                |         |          | 418      | 501       | 919         | 16.1       |
| 23     | J.I.T.           | 1.00    | Truck External | 175.00  | 210.00   | 175      | 210       | 385         | 6.7        |
|        | Zone 23 Subtotal |         |                |         |          | 175      | 210       | 385         | 6.7        |
| 24     | SP Rail Term     | 1.00    | Truck External | 178.00  | 213.00   | 178      | 213       | 391         | 6.9        |
|        | Zone 24 Subtotal |         |                |         |          | 178      | 213       | 391         | 6.9        |
| 26     | Middle Harbr     | 1.00    | Truck External | 190.00  | 228.00   | 190      | 228       | 418         | 7.3        |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
PM Peak Hour

| Zone # | Subzone          | Amount | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|--------|------------------|--------|----------------|---------|----------|----------|-----------|-------------|------------|
|        | Zone 26 Subtotal |        |                |         |          | 190      | 228       | 418         | 7.3        |
| 27     | 7th St Harbr     | 1.00   | Truck External | 226.00  | 271.00   | 226      | 271       | 497         | 8.7        |
|        | Zone 27 Subtotal |        |                |         |          | 226      | 271       | 497         | 8.7        |
| 28     | Outer Harbor     | 1.00   | Truck External | 261.00  | 312.00   | 261      | 312       | 573         | 10.0       |
|        | Zone 28 Subtotal |        |                |         |          | 261      | 312       | 573         | 10.0       |
| TOTAL  |                  |        |                |         |          | 2342     | 3364      | 5706        | 100.0      |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
PM Peak Hour

## Trip Distribution Report

## Percent Of Trips Existing

| Zone | To Gates |      |     |     |      |      |      |      |       |     |
|------|----------|------|-----|-----|------|------|------|------|-------|-----|
|      | 3        | 4    | 5   | 11  | 12   | 13   | 14   | 15   | 16    |     |
| 1    | 0.0      | 0.0  | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |     |
| 3    | 0.0      | 0.0  | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |     |
| 4    | 0.0      | 0.0  | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |     |
| 6    | 0.0      | 0.0  | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |     |
| 7    | 0.0      | 0.0  | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |     |
| 8    | 0.0      | 0.0  | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |     |
| 10   | 0.0      | 0.0  | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 100.0 |     |
| 11   | 49.6     | 50.4 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0 |
| 16   | 49.6     | 50.4 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0 |
| 17   | 49.6     | 50.4 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0 |
| 18   | 49.6     | 50.4 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0 |
| 21   | 0.0      | 0.0  | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |     |
| 23   | 0.0      | 0.0  | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |     |
| 24   | 0.0      | 0.0  | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |     |
| 26   | 0.0      | 0.0  | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |     |
| 27   | 0.0      | 0.0  | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |     |
| 28   | 0.0      | 0.0  | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |     |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
PM Peak Hour

Turning Movement Report  
PM Peak Hour

| Volume                                      | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total  |
|---|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------|
| Type  | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume |
| #3 Maritime St./ Burma St.                  |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 5          | 590  | 0     | 0          | 109  | 0     | 0         | 0    | 50    | 0         | 0    | 0     | 754    |
| Added                                       | 0          | 394  | 0     | 0          | 238  | 89    | 157       | 0    | 0     | 0         | 0    | 0     | 878    |
| Total                                       | 5          | 984  | 0     | 0          | 347  | 89    | 157       | 0    | 50    | 0         | 0    | 0     | 1632   |
| #4 Maritime St./ 14th St.                   |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 414  | 28    | 105        | 132  | 0     | 0         | 0    | 0     | 92        | 0    | 290   | 1061   |
| Added                                       | 301        | 297  | 0     | 0          | 173  | 65    | 97        | 0    | 391   | 0         | 0    | 0     | 1324   |
| Total                                       | 301        | 711  | 28    | 105        | 305  | 65    | 97        | 0    | 391   | 92        | 0    | 290   | 2385   |
| #5 Maritime St./ 7th St. Extension          |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 36         | 0    | 0     | 0          | 0    | 75    | 223       | 0    | 74    | 0         | 0    | 0     | 408    |
| Added                                       | 396        | 479  | 0     | 0          | 447  | 116   | 120       | 0    | 429   | 0         | 0    | 0     | 1987   |
| Total                                       | 432        | 479  | 0     | 0          | 447  | 191   | 343       | 0    | 503   | 0         | 0    | 0     | 2395   |
| #6 7th St./ 7th St. Extension               |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 0    | 0     | 31         | 18   | 0     | 0         | 0    | 19    | 0         | 0    | 0     | 68     |
| Added                                       | 191        | 150  | 56    | 448        | 144  | 285   | 405       | 498  | 229   | 39        | 341  | 319   | 3104   |
| Total                                       | 191        | 150  | 56    | 479        | 162  | 285   | 405       | 498  | 248   | 39        | 341  | 319   | 3172   |
| #7 Middle Harbor/New Mddl Hrbr Rd           |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 95         | 0    | 229   | 0          | 0    | 0     | 0         | 215  | 131   | 94        | 88   | 0     | 852    |
| Added                                       | 0          | 0    | 538   | 0          | 0    | 0     | 0         | 217  | 0     | 257       | 260  | 0     | 1272   |
| Total                                       | 95         | 0    | 767   | 0          | 0    | 0     | 0         | 432  | 131   | 351       | 348  | 0     | 2124   |
| #8 Adeline St./ 3rd St.                     |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 36         | 0    | 122   | 43         | 0    | 15    | 30        | 14   | 13    | 89        | 39   | 78    | 479    |
| Added                                       | 0          | 1041 | 0     | 0          | 670  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1711   |
| Total                                       | 36         | 1041 | 122   | 43         | 670  | 15    | 30        | 14   | 13    | 89        | 39   | 78    | 2190   |
| #9 7th/New Middle Harbor                    |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0      |
| Added                                       | 0          | 0    | 508   | 0          | 0    | 0     | 0         | 624  | 0     | 391       | 426  | 0     | 1949   |
| Total                                       | 0          | 0    | 508   | 0          | 0    | 0     | 0         | 624  | 0     | 391       | 426  | 0     | 1949   |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 23   | 0     | 9          | 23   | 23    | 20        | 454  | 210   | 0         | 624  | 13    | 1399   |
| Added                                       | 441        | 0    | 110   | 0          | 0    | 0     | 0         | 0    | 247   | 81        | 0    | 0     | 878    |
| Total                                       | 441        | 23   | 110   | 9          | 23   | 23    | 20        | 454  | 457   | 81        | 624  | 13    | 2277   |
| #13 Adeline St./ 5th St./ I-880 SB Ramp     |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base  | 0          | 0    | 0     | 241        | 0    | 69    | 138       | 157  | 0     | 0         | 202  | 616   | 1423   |
| Added                                       | 154        | 216  | 670   | 0          | 134  | 0     | 0         | 0    | 79    | 458       | 0    | 0     | 1711   |
| Total                                       | 154        | 216  | 670   | 241        | 134  | 69    | 138       | 157  | 79    | 458       | 202  | 616   | 3134   |



Table J.7-8 (Continued)

|   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
|---|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|----------|--------|
| C-PM.CMD  |            | Tue Nov 5, 1996 12:31:57 |       |            |      |       |           |      |       |           |      | Page 3-2 |        |
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>PM Peak Hour |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Volume  | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |          | Total  |
| Type  | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right    | Volume |
| #14 Union St./ 5th St./ I-880 North Ramps   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 194                      | 281   | 0          | 144  | 30    | 31        | 97   | 18    | 32        | 31   | 34       | 892    |
| Added   | 0          | 0                        | 79    | 0          | 0    | 0     | 0         | 0    | 0     | 154       | 0    | 0        | 233    |
| Total   | 0          | 194                      | 360   | 0          | 144  | 30    | 31        | 97   | 18    | 186       | 31   | 34       | 1125   |
| #15 7th St./ I-880 NB Ramps / Frontage Rd.  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 197                      | 3     | 2          | 0    | 205   | 0         | 108  | 0     | 0         | 53   | 1        | 569    |
| Added   | 381        | 0                        | 0     | 0          | 0    | 316   | 447       | 11   | 0     | 0         | 3    | 0        | 1158   |
| Total   | 381        | 197                      | 3     | 2          | 0    | 521   | 447       | 119  | 0     | 0         | 56   | 1        | 1727   |
| #16 7th St./ I-880 SB Ramps   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 7     | 378       | 0    | 0        | 385    |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 458  | 543   | 0         | 700  | 0        | 1700   |
| Total   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 458  | 550   | 378       | 700  | 0        | 2085   |
| #17 14th St./ I-880 Frontage Rd.  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 62                       | 130   | 4          | 0    | 0     | 0         | 0    | 0     | 115       | 0    | 7        | 318    |
| Added   | 0          | 447                      | 0     | 0          | 316  | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 763    |
| Total   | 0          | 509                      | 130   | 4          | 316  | 0     | 0         | 0    | 0     | 115       | 0    | 7        | 1081   |
| #18 W.Grand Ave./ I-880 Frontage Rd.  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 75         | 72                       | 0     | 759        | 0    | 6     | 86        | 277  | 3     | 0         | 456  | 330      | 2064   |
| Added   | 0          | 288                      | 160   | 0          | 213  | 0     | 0         | 110  | 0     | 103       | 81   | 0        | 954    |
| Total   | 75         | 360                      | 160   | 759        | 213  | 6     | 86        | 387  | 3     | 103       | 537  | 330      | 3018   |
| #134  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 0      |
| Added   | 0          | 0                        | 319   | 0          | 0    | 0     | 0         | 285  | 0     | 383       | 196  | 0        | 1183   |
| Total   | 0          | 0                        | 319   | 0          | 0    | 0     | 0         | 285  | 0     | 383       | 196  | 0        | 1183   |
| #138  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -168                     | 0     | 0          | -123 | -24   | -20       | 0    | 0     | 0         | 0    | 0        | -335   |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 0      |
| Total   | 0          | -168                     | 0     | 0          | -123 | -24   | -20       | 0    | 0     | 0         | 0    | 0        | -335   |
| #158  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -259                     | -163  | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -422   |
| Added   | 0          | 340                      | 148   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 487    |
| Total   | 0          | 81                       | -15   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 65     |
| #159  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | -259       | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -105 | 0        | -364   |
| Added   | 340        | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 91   | 0        | 430    |
| Total   | 81         | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -14  | 0        | 66     |

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|---|------------|--------------------------|-------|------------|------|-------|-----------|-------|-------|-----------|------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR          |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Maximum Marine/Minimum Rail Alternative |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| PM Peak Hour                            |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Volume                                  | Northbound |                          |       | Southbound |      |       | Eastbound |       |       | Westbound |      |          | Total  |
| Type                                    | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru  | Right | Left      | Thru | Right    | Volume |
| #160                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | -105      | -259 | 0        | -364   |
| Added                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | 91        | 340  | 0        | 430    |
| Total                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0     | 0     | -14       | 81   | 0        | 66     |
| #161                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | -105 | 0     | 0         | 0     | -150  | 0         | 0    | 0        | -255   |
| Added                                   | 0          | 0                        | 0     | 0          | 91   | 0     | 0         | 0     | 181   | 0         | 0    | 0        | 271    |
| Total                                   | 0          | 0                        | 0     | 0          | -14  | 0     | 0         | 0     | 31    | 0         | 0    | 0        | 16     |
| #165                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | -126 | 0     | 0         | 0     | -534  | 0         | 0    | 0        | -660   |
| Added                                   | 0          | 0                        | 0     | 0          | 79   | 0     | 0         | 0     | 543   | 0         | 0    | 0        | 622    |
| Total                                   | 0          | 0                        | 0     | 0          | -47  | 0     | 0         | 0     | 9     | 0         | 0    | 0        | -38    |
| #170                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | -205                     | -391  | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0        | -596   |
| Added                                   | 0          | 154                      | 381   | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0        | 535    |
| Total                                   | 0          | -51                      | -10   | 0          | 0    | 0     | 0         | 0     | 0     | 0         | 0    | 0        | -61    |
| #177                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | -214 | 0     | 0         | -163  | 0     | 0         | 0    | 0        | -377   |
| Added                                   | 0          | 0                        | 0     | 0          | 268  | 0     | 0         | 148   | 0     | 0         | 0    | 0        | 415    |
| Total                                   | 0          | 0                        | 0     | 0          | 54   | 0     | 0         | -15   | 0     | 0         | 0    | 0        | 38     |
| #178                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | -323                     | 0     | 0          | 0    | 0     | -116      | -47   | 0     | 0         | 0    | 0        | -486   |
| Added                                   | 0          | 395                      | 0     | 0          | 0    | 0     | 88        | 60    | 0     | 0         | 0    | 0        | 543    |
| Total                                   | 0          | 72                       | 0     | 0          | 0    | 0     | -28       | 13    | 0     | 0         | 0    | 0        | 57     |
| #182                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | -439                     | 0     | 0          | 0    | -297  | 0         | 0     | 0     | 0         | 0    | 0        | -736   |
| Added                                   | 0          | 483                      | 0     | 0          | 0    | 327   | 0         | 0     | 0     | 0         | 0    | 0        | 810    |
| Total                                   | 0          | 44                       | 0     | 0          | 0    | 30    | 0         | 0     | 0     | 0         | 0    | 0        | 74     |
| #201                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | -1043 | 0     | 0         | 0    | 0        | -104   |
| Added                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 1213  | 0     | 0         | 0    | 0        | 1213   |
| Total                                   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 170   | 0     | 0         | 0    | 0        | 170    |
| #204                                    |            |                          |       |            |      |       |           |       |       |           |      |          |        |
| Base                                    | 0          | 0                        | 0     | -375       | -668 | 0     | 0         | 0     | 0     | 0         | 0    | 0        | -1043  |
| Added                                   | 0          | 0                        | 0     | 419        | 795  | 0     | 0         | 0     | 0     | 0         | 0    | 0        | 1213   |
| Total                                   | 0          | 0                        | 0     | 44         | 127  | 0     | 0         | 0     | 0     | 0         | 0    | 0        | 170    |

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PM Peak Hour

| Volume<br>Type | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total<br>Volume |
|----------------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|-----------------|
|                | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |                 |
| #207           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | -463 | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | -278  | -741            |
| Added          | 0          | 529  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 309   | 839             |
| Total          | 0          | 66   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 31    | 98              |
| #214           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -350      | -391 | 0     | -741            |
| Added          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 458       | 381  | 0     | 839             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 108       | -10  | 0     | 98              |
| #217           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | -19  | 0     | 0         | -47  | 0     | 0         | 0    | 0     | -66             |
| Added          | 0          | 0    | 0     | 0          | 13   | 0     | 0         | 60   | 0     | 0         | 0    | 0     | 73              |
| Total          | 0          | 0    | 0     | 0          | -6   | 0     | 0         | 13   | 0     | 0         | 0    | 0     | 7               |
| #218           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | -39  | 0     | 0          | 0    | 0     | -31       | -16  | 0     | 0         | 0    | 0     | -86             |
| Added          | 0          | 31   | 0     | 0          | 0    | 0     | 44        | 16   | 0     | 0         | 0    | 0     | 91              |
| Total          | 0          | -8   | 0     | 0          | 0    | 0     | 13        | 0    | 0     | 0         | 0    | 0     | 5               |
| #219           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | -70  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -5   | 0     | -75             |
| Added          | 0          | 75   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 5    | 0     | 79              |
| Total          | 0          | 5    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -0   | 0     | 4               |
| #220           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | -19  | -18   | 0         | 0    | 0     | 0         | -5   | 0     | -42             |
| Added          | 0          | 0    | 0     | 0          | 13   | 27    | 0         | 0    | 0     | 0         | 5    | 0     | 45              |
| Total          | 0          | 0    | 0     | 0          | -6   | 9     | 0         | 0    | 0     | 0         | -0   | 0     | 3               |
| #225           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -278 | -5    | -283            |
| Added          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 309  | 5     | 314             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 31   | -0    | 31              |
| #226           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | -16        | 0    | 0     | 0         | -375 | 0     | 0         | 0    | 0     | -391            |
| Added          | 0          | 0    | 0     | 16         | 0    | 0     | 0         | 419  | 0     | 0         | 0    | 0     | 435             |
| Total          | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 44   | 0     | 0         | 0    | 0     | 44              |
| #244           |            |      |       |            |      |       |           |      |       |           |      |       |                 |
| Base           | 0          | 0    | 0     | 0          | 0    | -302  | -226      | -44  | 0     | 0         | -37  | 0     | -609            |
| Added          | 0          | 0    | 0     | 0          | 0    | 289   | 199       | 389  | 0     | 0         | 325  | 0     | 1202            |
| Total          | 0          | 0    | 0     | 0          | 0    | -13   | -27       | 345  | 0     | 0         | 288  | 0     | 593             |

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| Link Volume Report<br>PM Peak Hour          |         |     |       |         |      |       |         |      |       |         |      |       |                 |
|---|---------|-----|-------|---------|------|-------|---------|------|-------|---------|------|-------|-----------------|
| Volume<br>Type                              | NB Link |     |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total<br>Volume |
|   | In      | Out | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total |                 |
| #3 Maritime St./ Burma St.                  |         |     |       |         |      |       |         |      |       |         |      |       |                 |
| Base  | 595     | 159 | 754   | 109     | 590  | 699   | 50      | 5    | 55    | 0       | 0    | 0     | 1508            |
| Added                                       | 394     | 238 | 632   | 328     | 551  | 878   | 157     | 89   | 246   | 0       | 0    | 0     | 1757            |
| Total                                       | 989     | 397 | 1386  | 437     | 1141 | 1577  | 207     | 94   | 301   | 0       | 0    | 0     | 3265            |
| #4 Maritime St./ 14th St.                   |         |     |       |         |      |       |         |      |       |         |      |       |                 |
| Base  | 442     | 224 | 666   | 237     | 704  | 941   | 0       | 0    | 0     | 382     | 133  | 515   | 2122            |
| Added                                       | 599     | 564 | 1162  | 238     | 394  | 632   | 487     | 367  | 854   | 0       | 0    | 0     | 2649            |
| Total                                       | 1041    | 788 | 1828  | 475     | 1098 | 1573  | 487     | 367  | 854   | 382     | 133  | 515   | 4771            |
| #5 Maritime St./ 7th St. Extension          |         |     |       |         |      |       |         |      |       |         |      |       |                 |
| Base  | 36      | 74  | 110   | 75      | 223  | 298   | 297     | 111  | 408   | 0       | 0    | 0     | 816             |
| Added                                       | 875     | 876 | 1751  | 564     | 599  | 1162  | 549     | 512  | 1061  | 0       | 0    | 0     | 3974            |
| Total                                       | 911     | 950 | 1861  | 639     | 822  | 1460  | 846     | 623  | 1469  | 0       | 0    | 0     | 4790            |
| #6 7th St./ 7th St. Extension               |         |     |       |         |      |       |         |      |       |         |      |       |                 |
| Base  | 0       | 37  | 37    | 49      | 0    | 49    | 19      | 0    | 19    | 0       | 31   | 31    | 136             |
| Added                                       | 397     | 412 | 808   | 876     | 875  | 1751  | 1132    | 817  | 1949  | 700     | 1001 | 1700  | 6209            |
| Total                                       | 397     | 449 | 845   | 925     | 875  | 1800  | 1151    | 817  | 1968  | 700     | 1032 | 1731  | 6345            |
| #7 Middle Harbor/New Mddl Hrbr Rd           |         |     |       |         |      |       |         |      |       |         |      |       |                 |
| Base  | 324     | 225 | 549   | 0       | 0    | 0     | 346     | 183  | 529   | 182     | 444  | 626   | 1704            |
| Added                                       | 538     | 257 | 795   | 0       | 0    | 0     | 217     | 260  | 477   | 517     | 755  | 1272  | 2545            |
| Total                                       | 862     | 482 | 1344  | 0       | 0    | 0     | 563     | 443  | 1006  | 699     | 1199 | 1898  | 4249            |
| #8 Adeline St./ 3rd St.                     |         |     |       |         |      |       |         |      |       |         |      |       |                 |
| Base  | 158     | 102 | 260   | 58      | 108  | 166   | 57      | 90   | 147   | 206     | 179  | 385   | 958             |
| Added                                       | 1041    | 670 | 1711  | 670     | 1041 | 1711  | 0       | 0    | 0     | 0       | 0    | 0     | 3423            |
| Total                                       | 1199    | 772 | 1971  | 728     | 1149 | 1877  | 57      | 90   | 147   | 206     | 179  | 385   | 4381            |
| #9 7th/New Middle Harbor                    |         |     |       |         |      |       |         |      |       |         |      |       |                 |
| Base  | 0       | 0   | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0               |
| Added                                       | 508     | 391 | 899   | 0       | 0    | 0     | 624     | 426  | 1050  | 817     | 1132 | 1949  | 3898            |
| Total                                       | 508     | 391 | 899   | 0       | 0    | 0     | 624     | 426  | 1050  | 817     | 1132 | 1949  | 3898            |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps |         |     |       |         |      |       |         |      |       |         |      |       |                 |
| Base  | 23      | 233 | 256   | 55      | 56   | 111   | 684     | 647  | 1331  | 637     | 463  | 1100  | 2798            |
| Added                                       | 551     | 328 | 878   | 0       | 0    | 0     | 247     | 441  | 688   | 81      | 110  | 190   | 1757            |
| Total                                       | 574     | 561 | 1134  | 55      | 56   | 111   | 931     | 1088 | 2019  | 718     | 573  | 1290  | 4555            |
| #13 Adeline St./ 5th St./ I-880 SB Ramp     |         |     |       |         |      |       |         |      |       |         |      |       |                 |
| Base  | 0       | 0   | 0     | 310     | 754  | 1064  | 295     | 271  | 566   | 818     | 398  | 1216  | 2846            |
| Added                                       | 1041    | 671 | 1711  | 134     | 216  | 350   | 79      | 154  | 233   | 458     | 670  | 1128  | 3423            |
| Total                                       | 1041    | 671 | 1711  | 444     | 970  | 1414  | 374     | 425  | 799   | 1276    | 1068 | 2344  | 6269            |

Table J.7-8 (Continued)

|  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
|--|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|------|-------|----------|--|
| C-PM.CMD                                   |         | Tue Nov 5, 1996 12:31:57 |       |         |      |       |         |      |       |         |      |       | Page 4-2 |  |
| FISCO/Port Vision 2000 EIS/EIR             |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Maximum Marine/Minimum Rail Alternative    |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| PM Peak Hour                               |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Volume                                     | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total    |  |
| Type                                       | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | Volume   |  |
| #14 Union St./ 5th St./ I-880 North Ramps  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                                       | 475     | 194                      | 669   | 174     | 259  | 433   | 146     | 61   | 207   | 97      | 378  | 475   | 1784     |  |
| Added                                      | 79      | 154                      | 233   | 0       | 0    | 0     | 0       | 0    | 0     | 154     | 79   | 233   | 467      |  |
| Total                                      | 554     | 348                      | 902   | 174     | 259  | 433   | 146     | 61   | 207   | 251     | 457  | 708   | 2251     |  |
| #15 7th St./ I-880 NB Ramps / Frontage Rd. |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                                       | 200     | 0                        | 200   | 207     | 198  | 405   | 108     | 258  | 366   | 54      | 113  | 167   | 1138     |  |
| Added                                      | 381     | 0                        | 381   | 316     | 447  | 763   | 458     | 700  | 1158  | 3       | 11   | 13    | 2315     |  |
| Total                                      | 581     | 0                        | 581   | 523     | 645  | 1168  | 566     | 958  | 1524  | 57      | 124  | 180   | 3453     |  |
| #16 7th St./ I-880 SB Ramps                |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                                       | 0       | 385                      | 385   | 0       | 0    | 0     | 7       | 0    | 7     | 378     | 0    | 378   | 770      |  |
| Added                                      | 0       | 543                      | 543   | 0       | 0    | 0     | 1001    | 700  | 1700  | 700     | 458  | 1158  | 3401     |  |
| Total                                      | 0       | 928                      | 928   | 0       | 0    | 0     | 1008    | 700  | 1707  | 1078    | 458  | 1536  | 4171     |  |
| #17 14th St./ I-880 Frontage Rd.           |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                                       | 192     | 115                      | 307   | 4       | 69   | 73    | 0       | 0    | 0     | 122     | 134  | 256   | 636      |  |
| Added                                      | 447     | 316                      | 763   | 316     | 447  | 763   | 0       | 0    | 0     | 0       | 0    | 0     | 1527     |  |
| Total                                      | 639     | 431                      | 1070  | 320     | 516  | 836   | 0       | 0    | 0     | 122     | 134  | 256   | 2163     |  |
| #18 W.Grand Ave./ I-880 Frontage Rd.       |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                                       | 147     | 3                        | 150   | 765     | 488  | 1253  | 366     | 537  | 903   | 786     | 1036 | 1822  | 4128     |  |
| Added                                      | 447     | 316                      | 763   | 213     | 288  | 500   | 110     | 81   | 190   | 184     | 270  | 454   | 1908     |  |
| Total                                      | 594     | 319                      | 913   | 978     | 776  | 1753  | 476     | 618  | 1093  | 970     | 1306 | 2276  | 6036     |  |
| #134                                       |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                                       | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0        |  |
| Added                                      | 319     | 383                      | 702   | 0       | 0    | 0     | 285     | 196  | 481   | 579     | 604  | 1183  | 2367     |  |
| Total                                      | 319     | 383                      | 702   | 0       | 0    | 0     | 285     | 196  | 481   | 579     | 604  | 1183  | 2367     |  |
| #138                                       |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                                       | -168    | -123                     | -291  | -147    | -188 | -335  | -20     | -24  | -44   | 0       | 0    | 0     | -670     |  |
| Added                                      | 0       | 0                        | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0        |  |
| Total                                      | -168    | -123                     | -291  | -147    | -188 | -335  | -20     | -24  | -44   | 0       | 0    | 0     | -670     |  |
| #158                                       |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                                       | -422    | 0                        | -422  | 0       | -259 | -259  | 0       | 0    | 0     | 0       | -163 | -163  | -844     |  |
| Added                                      | 487     | 0                        | 487   | 0       | 340  | 340   | 0       | 0    | 0     | 0       | 148  | 148   | 975      |  |
| Total                                      | 65      | 0                        | 65    | 0       | 81   | 81    | 0       | 0    | 0     | 0       | -15  | -15   | 131      |  |
| #159                                       |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                                       | -259    | 0                        | -259  | 0       | 0    | 0     | 0       | -364 | -364  | -105    | 0    | -105  | -728     |  |
| Added                                      | 340     | 0                        | 340   | 0       | 0    | 0     | 0       | 430  | 430   | 91      | 0    | 91    | 860      |  |
| Total                                      | 81      | 0                        | 81    | 0       | 0    | 0     | 0       | 66   | 66    | -14     | 0    | -14   | 132      |  |

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FISCO/Port Vision 2000 EIS/EIR

Maximum Marine/Minimum Rail Alternative

PM Peak Hour

| Volume | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |       |       | Total  |
|--------|---------|------|-------|---------|------|-------|---------|------|-------|---------|-------|-------|--------|
| Type   | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out   | Total | Volume |
| #160   |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base   | 0       | -105 | -105  | 0       | 0    | 0     | 0       | -259 | -259  | -364    | 0     | -364  | -728   |
| Added  | 0       | 91   | 91    | 0       | 0    | 0     | 0       | 340  | 340   | 430     | 0     | 430   | 860    |
| Total  | 0       | -14  | -14   | 0       | 0    | 0     | 0       | 81   | 81    | 66      | 0     | 66    | 132    |
| #161   |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base   | 0       | -255 | -255  | -105    | 0    | -105  | -150    | 0    | -150  | 0       | 0     | 0     | -510   |
| Added  | 0       | 271  | 271   | 91      | 0    | 91    | 181     | 0    | 181   | 0       | 0     | 0     | 543    |
| Total  | 0       | 16   | 16    | -14     | 0    | -14   | 31      | 0    | 31    | 0       | 0     | 0     | 33     |
| #165   |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base   | 0       | -660 | -660  | -126    | 0    | -126  | -534    | 0    | -534  | 0       | 0     | 0     | -1320  |
| Added  | 0       | 622  | 622   | 79      | 0    | 79    | 543     | 0    | 543   | 0       | 0     | 0     | 1244   |
| Total  | 0       | -38  | -38   | -47     | 0    | -47   | 9       | 0    | 9     | 0       | 0     | 0     | -76    |
| #170   |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base   | -596    | 0    | -596  | 0       | -205 | -205  | 0       | 0    | 0     | 0       | -391  | -391  | -1192  |
| Added  | 535     | 0    | 535   | 0       | 154  | 154   | 0       | 0    | 0     | 0       | 381   | 381   | 1070   |
| Total  | -61     | 0    | -61   | 0       | -51  | -51   | 0       | 0    | 0     | 0       | -10   | -10   | -122   |
| #177   |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base   | 0       | -214 | -214  | -214    | 0    | -214  | -163    | 0    | -163  | 0       | -163  | -163  | -754   |
| Added  | 0       | 268  | 268   | 268     | 0    | 268   | 148     | 0    | 148   | 0       | 148   | 148   | 831    |
| Total  | 0       | 54   | 54    | 54      | 0    | 54    | -15     | 0    | -15   | 0       | -15   | -15   | 77     |
| #178   |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base   | -323    | 0    | -323  | 0       | -439 | -439  | -163    | 0    | -163  | 0       | -47   | -47   | -972   |
| Added  | 395     | 0    | 395   | 0       | 483  | 483   | 148     | 0    | 148   | 0       | 60    | 60    | 1085   |
| Total  | 72      | 0    | 72    | 0       | 44   | 44    | -15     | 0    | -15   | 0       | 13    | 13    | 113    |
| #182   |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base   | -439    | 0    | -439  | -297    | -439 | -736  | 0       | -297 | -297  | 0       | 0     | 0     | -1472  |
| Added  | 483     | 0    | 483   | 327     | 483  | 810   | 0       | 327  | 327   | 0       | 0     | 0     | 1619   |
| Total  | 44      | 0    | 44    | 30      | 44   | 74    | 0       | 30   | 30    | 0       | 0     | 0     | 147    |
| #201   |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base   | 0       | 0    | 0     | 0       | 0    | 0     | -1043   | 0    | -1043 | 0       | -1043 | -1043 | -208   |
| Added  | 0       | 0    | 0     | 0       | 0    | 0     | 1213    | 0    | 1213  | 0       | 1213  | 1213  | 2426   |
| Total  | 0       | 0    | 0     | 0       | 0    | 0     | 170     | 0    | 170   | 0       | 170   | 170   | 340    |
| #204   |         |      |       |         |      |       |         |      |       |         |       |       |        |
| Base   | 0       | -668 | -668  | -1043   | 0    | -1043 | 0       | 0    | 0     | 0       | -375  | -375  | -2086  |
| Added  | 0       | 795  | 795   | 1213    | 0    | 1213  | 0       | 0    | 0     | 0       | 419   | 419   | 2426   |
| Total  | 0       | 127  | 127   | 170     | 0    | 170   | 0       | 0    | 0     | 0       | 44    | 44    | 340    |

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|---|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|------|-------|----------|--|
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>PM Peak Hour |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Volume  | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total    |  |
| Type  | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | Volume   |  |
| #207  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | -463    | 0                        | -463  | 0       | -741 | -741  | 0       | 0    | 0     | -278    | 0    | -278  | -1482    |  |
| Added   | 529     | 0                        | 529   | 0       | 839  | 839   | 0       | 0    | 0     | 309     | 0    | 309   | 1677     |  |
| Total   | 66      | 0                        | 66    | 0       | 98   | 98    | 0       | 0    | 0     | 31      | 0    | 31    | 195      |  |
| #214  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 0       | -350                     | -350  | 0       | 0    | 0     | 0       | -391 | -391  | -741    | 0    | -741  | -1482    |  |
| Added   | 0       | 458                      | 458   | 0       | 0    | 0     | 0       | 381  | 381   | 839     | 0    | 839   | 1677     |  |
| Total   | 0       | 108                      | 108   | 0       | 0    | 0     | 0       | -10  | -10   | 98      | 0    | 98    | 195      |  |
| #217  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 0       | -19                      | -19   | -19     | 0    | -19   | -47     | 0    | -47   | 0       | -47  | -47   | -132     |  |
| Added   | 0       | 13                       | 13    | 13      | 0    | 13    | 60      | 0    | 60    | 0       | 60   | 60    | 147      |  |
| Total   | 0       | -6                       | -6    | -6      | 0    | -6    | 13      | 0    | 13    | 0       | 13   | 13    | 15       |  |
| #218  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | -39     | 0                        | -39   | 0       | -70  | -70   | -47     | 0    | -47   | 0       | -16  | -16   | -172     |  |
| Added   | 31      | 0                        | 31    | 0       | 75   | 75    | 60      | 0    | 60    | 0       | 16   | 16    | 182      |  |
| Total   | -8      | 0                        | -8    | 0       | 5    | 5     | 13      | 0    | 13    | 0       | 0    | 0     | 10       |  |
| #219  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | -70     | 0                        | -70   | 0       | -70  | -70   | 0       | -5   | -5    | -5      | 0    | -5    | -150     |  |
| Added   | 75      | 0                        | 75    | 0       | 75   | 75    | 0       | 5    | 5     | 5       | 0    | 5     | 158      |  |
| Total   | 5       | 0                        | 5     | 0       | 5    | 5     | 0       | -0   | -0    | -0      | 0    | -0    | 8        |  |
| #220  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 0       | -19                      | -19   | -37     | 0    | -37   | 0       | -23  | -23   | -5      | 0    | -5    | -84      |  |
| Added   | 0       | 13                       | 13    | 40      | 0    | 40    | 0       | 31   | 31    | 5       | 0    | 5     | 89       |  |
| Total   | 0       | -6                       | -6    | 3       | 0    | 3     | 0       | 8    | 8     | -0      | 0    | -0    | 5        |  |
| #225  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 0       | 0                        | 0     | 0       | -5   | -5    | 0       | -278 | -278  | -283    | 0    | -283  | -566     |  |
| Added   | 0       | 0                        | 0     | 0       | 5    | 5     | 0       | 309  | 309   | 314     | 0    | 314   | 628      |  |
| Total   | 0       | 0                        | 0     | 0       | -0   | -0    | 0       | 31   | 31    | 31      | 0    | 31    | 62       |  |
| #226  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 0       | 0                        | 0     | -16     | 0    | -16   | -375    | 0    | -375  | 0       | -391 | -391  | -782     |  |
| Added   | 0       | 0                        | 0     | 16      | 0    | 16    | 419     | 0    | 419   | 0       | 435  | 435   | 870      |  |
| Total   | 0       | 0                        | 0     | 0       | 0    | 0     | 44      | 0    | 44    | 0       | 44   | 44    | 88       |  |
| #244  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base  | 0       | 0                        | 0     | -302    | -226 | -528  | -270    | -339 | -609  | -37     | -44  | -81   | -1218    |  |
| Added   | 0       | 0                        | 0     | 289     | 199  | 488   | 588     | 614  | 1202  | 325     | 389  | 714   | 2403     |  |
| Total   | 0       | 0                        | 0     | -13     | -27  | -40   | 318     | 275  | 593   | 288     | 345  | 633   | 1185     |  |

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|---|-----------------------------------|--------------------------|-----------|-------|-------------|-----------|-------|--------------|--------|----------|--|
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>PM Peak Hour |                                   |                          |           |       |             |           |       |              |        |          |  |
| Impact Analysis Report<br>Level Of Service  |                                   |                          |           |       |             |           |       |              |        |          |  |
| Intersection  |                                   | Base                     |           |       | Future      |           |       | Change<br>in |        |          |  |
|   |                                   | Del/<br>LOS              | V/<br>Veh | C     | Del/<br>LOS | V/<br>Veh | C     |              |        |          |  |
| #   | 3 Maritime St./ Burma St.         | B                        | 7.2       | 0.211 | B           | 9.4       | 0.329 | +            | 2.283  | D/V      |  |
| #   | 4 Maritime St./ 14th St.          | C                        | 15.9      | 0.392 | C           | 19.5      | 0.774 | +            | 3.579  | D/V      |  |
| #   | 5 Maritime St./ 7th St. Extensio  | B                        | 5.8       | 0.080 | B           | 12.7      | 0.473 | +            | 6.898  | D/V      |  |
| #   | 6 7th St./ 7th St. Extension      | B                        | 5.8       | 0.018 | D           | 29.1      | 0.699 | +            | 23.263 | D/V      |  |
| #   | 7 Middle Harbor/New Mddl Hrbr Rd  | B                        | 13.5      | 0.296 | C           | 21.3      | 0.830 | +            | 7.841  | D/V      |  |
| #   | 8 Adeline St./ 3rd St.            | C                        | 20.4      | 0.084 | F           | 91.7      | 0.693 | +            | 71.346 | D/V      |  |
| #   | 9 7th/New Middle Harbor           |                          | 0.0       | 0.000 | C           | 20.7      | 0.765 | +            | 20.722 | D/V      |  |
| #   | 12 Maritime St./ W.Grand Ave./ I- | B                        | 12.4      | 0.237 | C           | 18.9      | 0.429 | +            | 6.576  | D/V      |  |
| #   | 13 Adeline St./ 5th St./ I-880 SB | C                        | 17.6      | 0.328 | C           | 22.4      | 0.656 | +            | 4.809  | D/V      |  |
| #   | 14 Union St./ 5th St./ I-880 Nort | B                        | 12.5      | 0.178 | C           | 15.7      | 0.199 | +            | 3.250  | D/V      |  |
| #   | 15 7th St./ I-880 NB Ramps / Fron | B                        | 11.5      | 0.135 | C           | 17.6      | 0.413 | +            | 6.181  | D/V      |  |
| #   | 16 7th St./ I-880 SB Ramps        | A                        | 2.6       | 0.113 | B           | 5.7       | 0.472 | +            | 3.064  | D/V      |  |
| #   | 17 14th St./ I-880 Frontage Rd.   | A                        | 1.9       | 0.000 | D           | 2.5       | 0.000 | +            | 0.000  | V/C      |  |
| #   | 18 W.Grand Ave./ I-880 Frontage R | C                        | 21.1      | 0.505 | C           | 22.3      | 0.671 | +            | 1.232  | D/V      |  |



Table J.7-8 (Continued)

C-PM. CMD

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #3 Maritime St./ Burma St.

|                  |                 |                          |       |
|------------------|-----------------|--------------------------|-------|
| Cycle (sec):     | 100             | Critical Vol./Cap. (X):  | 0.329 |
| Loss Time (sec): | 8 (Y+R = 4 sec) | Average Delay (sec/veh): | 9.4   |
| Optimal Cycle:   | 58              | Level Of Service:        | B     |

| Approach:   | North Bound |    |    |   | South Bound |    |    |   | East Bound |    |    |   | West Bound |   |   |   |
|-------------|-------------|----|----|---|-------------|----|----|---|------------|----|----|---|------------|---|---|---|
| Movement:   | L           | T  | R  |   | L           | T  | R  |   | L          | T  | R  |   | L          | T | R |   |
| Control:    | Protected   |    |    |   | Protected   |    |    |   | Protected  |    |    |   | Protected  |   |   |   |
| Rights:     | Include     |    |    |   | Include     |    |    |   | Include    |    |    |   | Include    |   |   |   |
| Min. Green: | 10          | 20 | 20 |   | 10          | 20 | 20 |   | 10         | 20 | 20 |   | 0          | 0 | 0 |   |
| Lanes:      | 1           | 0  | 1  | 1 | 0           | 1  | 1  | 0 | 1          | 0  | 0  | 1 | 0          | 0 | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 5    | 590  | 0    | 0    | 109  | 0    | 0    | 0    | 50   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 5    | 590  | 0    | 0    | 109  | 0    | 0    | 0    | 50   | 0    | 0    | 0    |
| Added Vol:   | 0    | 394  | 0    | 0    | 238  | 89   | 157  | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 5    | 984  | 0    | 0    | 347  | 89   | 157  | 0    | 50   | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 5    | 984  | 0    | 0    | 347  | 89   | 157  | 0    | 50   | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 5    | 984  | 0    | 0    | 347  | 89   | 157  | 0    | 50   | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 5    | 1033 | 0    | 0    | 365  | 94   | 157  | 0    | 50   | 0    | 0    | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 2.00 | 0.00 | 1.00 | 1.59 | 0.41 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 1805 | 3800 | 0    | 1900 | 2931 | 755  | 1805 | 0    | 1615 | 0    | 0    | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.27 | 0.00 | 0.00 | 0.12 | 0.12 | 0.09 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      |      |      | **** |      |      |      |
| Green/Cycle: | 0.24 | 0.62 | 0.00 | 0.00 | 0.48 | 0.48 | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.01 | 0.44 | 0.00 | 0.00 | 0.26 | 0.26 | 0.43 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 18.7 | 6.5  | 0.0  | 0.0  | 10.0 | 10.0 | 23.2 | 0.0  | 21.4 | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 18.7 | 6.5  | 0.0  | 0.0  | 10.0 | 10.0 | 23.2 | 0.0  | 21.4 | 0.0  | 0.0  | 0.0  |
| Queue:       | 0    | 15   | 0    | 0    | 6    | 2    | 4    | 0    | 1    | 0    | 0    | 0    |

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C-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #4 Maritime St./ 14th St:

|                  |                 |                          |       |
|------------------|-----------------|--------------------------|-------|
| Cycle (sec):     | 100             | Critical Vol./Cap. (X):  | 0.774 |
| Loss Time (sec): | 8 (Y+R = 4 sec) | Average Delay (sec/veh): | 19.5  |
| Optimal Cycle:   | 60              | Level Of Service:        | C     |

|             |             |    |    |   |             |    |    |   |            |    |    |   |            |    |    |   |   |   |   |   |
|-------------|-------------|----|----|---|-------------|----|----|---|------------|----|----|---|------------|----|----|---|---|---|---|---|
| Approach:   | North Bound |    |    |   | South Bound |    |    |   | East Bound |    |    |   | West Bound |    |    |   |   |   |   |   |
| Movement:   | L           | -  | T  | - | R           | L  | -  | T | -          | R  | L  | - | T          | -  | R  | L | - | T | - | R |
| Control:    | Protected   |    |    |   | Protected   |    |    |   | Permitted  |    |    |   | Permitted  |    |    |   |   |   |   |   |
| Rights:     | Include     |    |    |   | Include     |    |    |   | Ovl        |    |    |   | Include    |    |    |   |   |   |   |   |
| Min. Green: | 10          | 20 | 20 |   | 10          | 20 | 20 |   | 10         | 20 | 20 |   | 10         | 20 | 20 |   |   |   |   |   |
| Lanes:      | 1           | 0  | 1  | 1 | 0           | 1  | 0  | 1 | 1          | 0  | 0  | 0 | 1          | 0  | 0  | 1 | 0 | 0 | 1 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 414  | 28   | 105  | 132  | 0    | 0    | 0    | 0    | 92   | 0    | 290  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 414  | 28   | 105  | 132  | 0    | 0    | 0    | 0    | 92   | 0    | 290  |
| Added Vol:   | 301  | 297  | 0    | 0    | 173  | 65   | 97   | 0    | 391  | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 301  | 711  | 28   | 105  | 305  | 65   | 97   | 0    | 391  | 92   | 0    | 290  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 301  | 711  | 28   | 105  | 305  | 65   | 97   | 0    | 391  | 92   | 0    | 290  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 301  | 711  | 28   | 105  | 305  | 65   | 97   | 0    | 391  | 92   | 0    | 290  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 301  | 747  | 29   | 105  | 320  | 69   | 97   | 0    | 391  | 92   | 0    | 290  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.99 | 0.99 | 0.95 | 0.97 | 0.97 | 0.58 | 1.00 | 0.58 | 0.40 | 1.00 | 0.85 |
| Lanes:      | 1.00 | 1.93 | 0.07 | 1.00 | 1.65 | 0.35 | 0.20 | 0.00 | 0.80 | 1.00 | 0.00 | 1.00 |
| Final Sat.: | 1805 | 3621 | 141  | 1805 | 3032 | 654  | 221  | 0    | 890  | 760  | 0    | 1615 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.17 | 0.21 | 0.21 | 0.06 | 0.11 | 0.11 | 0.44 | 0.00 | 0.44 | 0.12 | 0.00 | 0.18 |
| Crit Moves:  | ***  |      |      |      | ***  |      | ***  |      |      |      |      |      |
| Green/Cycle: | 0.20 | 0.30 | 0.30 | 0.10 | 0.20 | 0.20 | 0.52 | 0.00 | 0.72 | 0.52 | 0.00 | 0.52 |
| Volume/Cap:  | 0.84 | 0.69 | 0.69 | 0.58 | 0.53 | 0.53 | 0.84 | 0.00 | 0.61 | 0.23 | 0.00 | 0.34 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 36.2 | 21.3 | 21.3 | 31.2 | 23.7 | 23.7 | 20.7 | 0.0  | 5.5  | 8.5  | 0.0  | 9.1  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 36.2 | 21.3 | 21.3 | 31.2 | 23.7 | 23.7 | 20.7 | 0.0  | 5.5  | 8.5  | 0.0  | 9.1  |
| Queue:       | 10   | 19   | 1    | 3    | 8    | 2    | 3    | 0    | 6    | 1    | 0    | 5    |

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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.473  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 12.7  
Optimal Cycle: 48 Level Of Service: B

| Approach:   | North Bound |    |   | South Bound |    |    | East Bound |   |    | West Bound |   |   |
|-------------|-------------|----|---|-------------|----|----|------------|---|----|------------|---|---|
| Movement:   | L           | T  | R | L           | T  | R  | L          | T | R  | L          | T | R |
| Control:    | Protected   |    |   | Protected   |    |    | Protected  |   |    | Protected  |   |   |
| Rights:     | Include     |    |   | Ovl         |    |    | Ovl        |   |    | Include    |   |   |
| Min. Green: | 10          | 20 | 0 | 0           | 20 | 20 | 10         | 0 | 20 | 0          | 0 | 0 |
| Lanes:      | 2           | 0  | 2 | 0           | 2  | 0  | 2          | 0 | 0  | 0          | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 36   | 0    | 0    | 0    | 0    | 75   | 223  | 0    | 74   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 36   | 0    | 0    | 0    | 0    | 75   | 223  | 0    | 74   | 0    | 0    | 0    |
| Added Vol:   | 396  | 479  | 0    | 0    | 447  | 116  | 120  | 0    | 429  | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 432  | 479  | 0    | 0    | 447  | 191  | 343  | 0    | 503  | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 432  | 479  | 0    | 0    | 447  | 191  | 343  | 0    | 503  | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 432  | 479  | 0    | 0    | 447  | 191  | 343  | 0    | 503  | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.05 | 1.00 | 1.00 | 1.05 | 1.00 | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 445  | 502  | 0    | 0    | 470  | 191  | 353  | 0    | 503  | 0    | 0    | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 3610 | 3800 | 0    | 0    | 3800 | 1615 | 3610 | 0    | 1615 | 0    | 0    | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.12 | 0.13 | 0.00 | 0.00 | 0.12 | 0.12 | 0.10 | 0.00 | 0.31 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.26 | 0.52 | 0.00 | 0.00 | 0.26 | 0.66 | 0.40 | 0.00 | 0.66 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.47 | 0.25 | 0.00 | 0.00 | 0.47 | 0.18 | 0.25 | 0.00 | 0.47 | 0.00 | 0.00 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 20.4 | 8.5  | 0.0  | 0.0  | 20.4 | 4.3  | 13.0 | 0.0  | 5.7  | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 20.4 | 8.5  | 0.0  | 0.0  | 20.4 | 4.3  | 13.0 | 0.0  | 5.7  | 0.0  | 0.0  | 0.0  |
| Queue:       | 11   | 8    | 0    | 0    | 11   | 2    | 7    | 0    | 7    | 0    | 0    | 0    |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.699  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 29.1  
Optimal Cycle: 68 Level Of Service: D

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Ovl        |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 0          | 20 | 20 |
| Lanes:      | 1           | 0  | 1  | 1           | 0  | 1  | 1          | 0  | 2  | 1          | 0  | 2  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 31   | 18   | 0    | 0    | 0    | 19   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 31   | 18   | 0    | 0    | 0    | 19   | 0    | 0    | 0    |
| Added Vol:   | 191  | 150  | 56   | 448  | 144  | 285  | 405  | 498  | 229  | 39   | 341  | 319  |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 191  | 150  | 56   | 479  | 162  | 285  | 405  | 498  | 248  | 39   | 341  | 319  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 191  | 150  | 56   | 479  | 162  | 285  | 405  | 498  | 248  | 39   | 341  | 319  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 191  | 150  | 56   | 479  | 162  | 285  | 405  | 498  | 248  | 39   | 341  | 319  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.10 | 1.10 | 1.00 | 1.05 | 1.00 |
| Final Vol.:  | 191  | 157  | 58   | 479  | 162  | 285  | 405  | 547  | 273  | 39   | 358  | 319  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.96 | 0.96 | 0.95 | 1.00 | 0.85 | 0.95 | 0.95 | 0.95 | 0.95 | 1.00 | 0.85 |
| Lanes:      | 1.00 | 1.46 | 0.54 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Final Sat.: | 1805 | 2664 | 984  | 1805 | 1900 | 1615 | 1805 | 3612 | 1803 | 1805 | 3800 | 1615 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.11 | 0.06 | 0.06 | 0.27 | 0.09 | 0.18 | 0.22 | 0.15 | 0.15 | 0.02 | 0.09 | 0.20 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.28 | 0.20 | 0.20 | 0.28 | 0.20 | 0.20 | 0.24 | 0.20 | 0.20 | 0.24 | 0.20 | 0.48 |
| Volume/Cap:  | 0.38 | 0.29 | 0.29 | 0.94 | 0.43 | 0.88 | 0.94 | 0.76 | 0.76 | 0.09 | 0.47 | 0.41 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 18.9 | 22.0 | 22.0 | 41.6 | 22.8 | 36.8 | 45.3 | 26.5 | 26.5 | 19.2 | 23.2 | 11.0 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 18.9 | 22.0 | 22.0 | 41.6 | 22.8 | 36.8 | 45.3 | 26.5 | 26.5 | 19.2 | 23.2 | 11.0 |
| Queue:       | 4    | 4    | 1    | 16   | 4    | 10   | 14   | 15   | 8    | 1    | 9    | 6    |

Table J.7-8 (Continued)

C-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR

Maximum Marine/Minimum Rail Alternative

PM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #7 Middle Harbor/New Mddl Hrbr Rd

Cycle (sec): 100

Critical Vol./Cap. (X): 0.830

Loss Time (sec): 0 (Y+R = 4 sec)

Average Delay (sec/veh): 21.3

Optimal Cycle: 134

Level Of Service: C

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected

Rights: Include Include Include Include

Min. Green: 10 0 20 0 0 0 0 20 20 10 20 0

Lanes: 1 0 0 0 1 0 0 0 0 0 1 0 0 1 0 2 0 0

Volume Module:

Base Vol: 95 0 229 0 0 0 0 215 131 94 88 0

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 95 0 229 0 0 0 0 215 131 94 88 0

Added Vol: 0 0 538 0 0 0 0 217 0 257 260 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0

Initial Fut: 95 0 767 0 0 0 0 432 131 351 348 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 95 0 767 0 0 0 0 432 131 351 348 0

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 95 0 767 0 0 0 0 432 131 351 348 0

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.05 1.05 1.00 1.05 1.00

Final Vol.: 95 0 767 0 0 0 0 454 138 351 365 0

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 0.95 1.00 0.85 1.00 1.00 1.00 1.00 0.97 0.97 0.95 1.00 1.00

Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.53 0.47 1.00 2.00 0.00

Final Sat.: 1805 0 1615 0 0 0 0 2827 859 1805 3800 0

Capacity Analysis Module:

Vol/Sat: 0.05 0.00 0.47 0.00 0.00 0.00 0.00 0.16 0.16 0.19 0.10 0.00

Crit Moves: \*\*\*\*

Green/Cycle: 0.57 0.00 0.57 0.00 0.00 0.00 0.00 0.20 0.20 0.23 0.43 0.00

Volume/Cap: 0.09 0.00 0.84 0.00 0.00 0.00 0.00 0.80 0.80 0.84 0.22 0.00

Level Of Service Module:

Delay/Veh: 6.4 0.0 16.3 0.0 0.0 0.0 0.0 29.1 29.1 33.2 11.5 0.0

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 6.4 0.0 16.3 0.0 0.0 0.0 0.0 29.1 29.1 33.2 11.5 0.0

Queue: 1 0 19 0 0 0 0 13 5 11 6 0

|  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
|--|--|--------------------------|--|--|--|--|--|--|--|--|--|-----------|--|
| C-PM.CMD   |  | Tue Nov 5, 1996 12:31:58 |  |  |  |  |  |  |  |  |  | Page 11-1 |  |
| FISCO/Port Vision 2000 EIS/EIR   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Maximum Marine/Minimum Rail Alternative                                  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PM Peak Hour   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Level Of Service Computation Report                                      |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| 1994 HCM Operations Method (Future Volume Alternative)                   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Intersection #8 Adeline St./ 3rd St.                                     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Cycle (sec): 100 Critical Vol./Cap. (X): 0.693                           |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 91.7          |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Optimal Cycle: 92 Level Of Service: F                                    |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Approach: North Bound South Bound East Bound West Bound                  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Movement: L - T - R L - T - R L - T - R L - T - R                        |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Control: Split Phase Split Phase Split Phase Split Phase                 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Rights: Include Include Include Include                                  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Min. Green: 10 20 20 10 20 20 10 20 20 10 20 20                          |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Lanes: 0 1 0 1 0 0 1 0 1 0 0 1 0 1 0                                     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Volume Module:   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Base Vol: 36 0 122 43 0 15 30 14 13 89 39 78                             |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Initial Bse: 36 0 122 43 0 15 30 14 13 89 39 78                          |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Added Vol: 0 1041 0 0 670 0 0 0 0 0 0 0                                  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0                                     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Initial Fut: 36 1041 122 43 670 15 30 14 13 89 39 78                     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00    |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PHF Volume: 36 1041 122 43 670 15 30 14 13 89 39 78                      |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0                                      |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Reduced Vol: 36 1041 122 43 670 15 30 14 13 89 39 78                     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| MLF Adj: 1.05 1.05 1.05 1.05 1.05 1.05 1.00 1.00 1.00 1.00 1.00 1.00     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Final Vol.: 38 1093 128 45 704 16 30 14 13 89 39 78                      |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Saturation Flow Module:  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900    |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Adjustment: 0.99 0.99 0.99 1.00 1.00 1.00 0.95 0.93 0.93 0.95 0.90 0.90  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Lanes: 0.06 1.74 0.20 0.12 1.84 0.04 1.00 0.52 0.48 0.84 0.39 0.77       |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Final Sat.: 114 3266 382 224 3497 79 1805 916 851 1512 663 1325          |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Capacity Analysis Module:  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Vol/Sat: 0.33 0.33 0.33 0.20 0.20 0.20 0.02 0.02 0.02 0.06 0.06 0.06     |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Crit Moves: **** **** **** ****  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Green/Cycle: 0.28 0.28 0.28 0.20 0.20 0.20 0.20 0.20 0.20 0.20 0.20 0.20 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Volume/Cap.: 1.20 1.20 1.20 1.01 1.01 1.01 0.08 0.08 0.08 0.29 0.29 0.29 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Level Of Service Module:   |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Delay/Veh: 130.1 130 130.1 52.5 52.5 52.5 21.0 21.0 21.0 22.0 22.0 22.0  |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| AdjDel/Veh: 130.1 130 130.1 52.5 52.5 52.5 21.0 21.0 21.0 22.0 22.0 22.0 |  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Queue: 4 69 10 3 27 1 1 0 0 2 1 2  |  |                          |  |  |  |  |  |  |  |  |  |           |  |



|  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
|--|--------------------------|--|--|--|--|--|--|--|--|--|--|--|-----------|
| C-PM.CMD   | Tue Nov 5, 1996 12:31:58 |  |  |  |  |  |  |  |  |  |  |  | Page 12-1 |
| FISCO/Port Vision 2000 EIS/EIR   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Maximum Marine/Minimum Rail Alternative                                      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PM Peak Hour   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Level Of Service Computation Report  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| 1994 HCM Operations Method (Future Volume Alternative)                       |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Intersection #9 7th/New Middle Harbor  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Cycle (sec): 100 Critical Vol./Cap. (X): 0.765                               |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 20.7               |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Optimal Cycle: 58 Level Of Service: C  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Approach: North Bound South Bound East Bound West Bound                      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Movement: L - T - R L - T - R L - T - R L - T - R                            |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Control: Protected Protected Protected Protected                             |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Rights: Include Include Include Include                                      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Min. Green: 10 0 20 0 0 0 0 0 20 20 10 20 0                                  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0                                 |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Volume Module:   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Base Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Initial Bse: 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Added Vol: 0 0 508 0 0 0 0 0 624 0 391 426 0                                 |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Initial Fut: 0 0 508 0 0 0 0 0 624 0 391 426 0                               |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00    |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PHF Volume: 0 0 508 0 0 0 0 0 624 0 391 426 0                                |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Reduced Vol: 0 0 508 0 0 0 0 0 624 0 391 426 0                               |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00         |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.05 1.05 1.00 1.05 1.00         |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Final Vol.: 0 0 508 0 0 0 0 0 655 0 391 447 0                                |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Saturation Flow Module:  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900        |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Adjustment: 1.00 1.00 0.85 1.00 1.00 1.00 1.00 1.00 1.00 0.95 1.00 1.00      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 2.00 0.00 1.00 2.00 0.00           |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Final Sat.: 1900 0 1615 0 0 0 0 3800 0 1805 3800 0                           |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Capacity Analysis Module:  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Vol/Sat: 0.00 0.00 0.31 0.00 0.00 0.00 0.00 0.17 0.00 0.22 0.12 0.00         |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Crit Moves: ****   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Green/Cycle: 0.00 0.00 0.41 0.00 0.00 0.00 0.00 0.23 0.00 0.28 0.51 0.00     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Volume/Cap: 0.00 0.00 0.76 0.00 0.00 0.00 0.00 0.76 0.00 0.76 0.23 0.00      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Level Of Service Module:   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Delay/Veh: 0.0 0.0 20.0 0.0 0.0 0.0 0.0 26.3 0.0 25.9 8.8 0.0                |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| AdjDel/Veh: 0.0 0.0 20.0 0.0 0.0 0.0 0.0 26.3 0.0 25.9 8.8 0.0               |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Queue: 0 0 13 0 0 0 0 18 0 11 7 0  |                          |  |  |  |  |  |  |  |  |  |  |  |           |

|  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
|--|--------------------------|--------------------------|------|-------------|------|------|------------|------|------|------------|------|-------|-----------|
| C-PM.CMD   | Tue Nov 5, 1996 12:31:58 |                          |      |             |      |      |            |      |      |            |      |       | Page 13-1 |
| FISCO/Port Vision 2000 EIS/EIR                           |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Maximum Marine/Minimum Rail Alternative                  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| PM Peak Hour   |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Level Of Service Computation Report                      |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| 1994 HCM Operations Method (Future Volume Alternative)   |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      |            |      | 0.429 |           |
| Loss Time (sec):   | 10 (Y+R = 4 sec)         | Average Delay (sec/veh): |      |             |      |      |            |      |      |            |      | 18.9  |           |
| Optimal Cycle:   | 70                       | Level Of Service:        |      |             |      |      |            |      |      |            |      | C     |           |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound |      |      | West Bound |      |       |           |
| Movement:  | L                        | T                        | R    | L           | T    | R    | L          | T    | R    | L          | T    | R     |           |
| ----- ----- ----- -----                                  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Control:   | Protected                |                          |      | Protected   |      |      | Protected  |      |      | Protected  |      |       |           |
| Rights:  | Include                  |                          |      | Include     |      |      | Include    |      |      | Include    |      |       |           |
| Min. Green:  | 10                       | 20                       | 20   | 10          | 20   | 20   | 10         | 20   | 20   | 10         | 20   | 20    |           |
| Lanes:   | 2                        | 0                        | 0    | 1           | 0    | 0    | 1          | 0    | 1    | 1          | 1    | 1     | 0         |
| ----- ----- ----- -----                                  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Volume Module:   |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Base Vol:  | 0                        | 23                       | 0    | 9           | 23   | 23   | 20         | 454  | 210  | 0          | 624  | 13    |           |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| Initial Bse:   | 0                        | 23                       | 0    | 9           | 23   | 23   | 20         | 454  | 210  | 0          | 624  | 13    |           |
| Added Vol:   | 441                      | 0                        | 110  | 0           | 0    | 0    | 0          | 0    | 247  | 81         | 0    | 0     |           |
| PasserByVol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |           |
| Initial Fut:   | 441                      | 23                       | 110  | 9           | 23   | 23   | 20         | 454  | 457  | 81         | 624  | 13    |           |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| PHF Volume:  | 441                      | 23                       | 110  | 9           | 23   | 23   | 20         | 454  | 457  | 81         | 624  | 13    |           |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |           |
| Reduced Vol:   | 441                      | 23                       | 110  | 9           | 23   | 23   | 20         | 454  | 457  | 81         | 624  | 13    |           |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| MLF Adj:   | 1.03                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.10 | 1.10 | 1.00       | 1.05 | 1.05  |           |
| Final Vol.:  | 454                      | 23                       | 110  | 9           | 23   | 23   | 20         | 499  | 503  | 81         | 655  | 14    |           |
| ----- ----- ----- -----                                  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Saturation Flow Module:                                  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900  |           |
| Adjustment:  | 0.95                     | 0.88                     | 0.88 | 0.95        | 0.93 | 0.93 | 0.95       | 0.93 | 0.93 | 0.95       | 1.00 | 1.00  |           |
| Lanes:   | 2.00                     | 0.17                     | 0.83 | 1.00        | 0.50 | 0.50 | 1.00       | 1.49 | 1.51 | 1.00       | 1.96 | 0.04  |           |
| Final Sat.:  | 3610                     | 289                      | 1383 | 1805        | 884  | 884  | 1805       | 2640 | 2661 | 1805       | 3720 | 80    |           |
| ----- ----- ----- -----                                  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Capacity Analysis Module:                                |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Vol/Sat:   | 0.13                     | 0.08                     | 0.08 | 0.00        | 0.03 | 0.03 | 0.01       | 0.19 | 0.19 | 0.04       | 0.18 | 0.18  |           |
| Crit Moves:  | ****                     |                          |      | ****        |      |      | ****       |      |      | ****       |      |       |           |
| Green/Cycle:   | 0.24                     | 0.29                     | 0.29 | 0.15        | 0.20 | 0.20 | 0.15       | 0.36 | 0.36 | 0.10       | 0.31 | 0.31  |           |
| Volume/Cap:  | 0.52                     | 0.27                     | 0.27 | 0.03        | 0.13 | 0.13 | 0.07       | 0.52 | 0.52 | 0.45       | 0.57 | 0.57  |           |
| ----- ----- ----- -----                                  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Level Of Service Module:                                 |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Delay/Veh:   | 21.8                     | 17.6                     | 17.6 | 23.6        | 21.2 | 21.2 | 23.4       | 16.5 | 16.5 | 28.6       | 19.4 | 19.4  |           |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| AdjDel/Veh:  | 21.8                     | 17.6                     | 17.6 | 23.6        | 21.2 | 21.2 | 23.4       | 16.5 | 16.5 | 28.6       | 19.4 | 19.4  |           |
| Queue:   | 11                       | 1                        | 2    | 0           | 1    | 1    | 0          | 11   | 11   | 2          | 16   | 0     |           |
| *****  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |



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FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Minimum Rail Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #14 Union St./ 5th St./ I-880 North Ramps

|                  |                  |                          |       |
|------------------|------------------|--------------------------|-------|
| Cycle (sec):     | 100              | Critical Vol./Cap. (X):  | 0.199 |
| Loss Time (sec): | 11 (Y+R = 4 sec) | Average Delay (sec/veh): | 15.7  |
| Optimal Cycle:   | 71               | Level Of Service:        | C     |

| Approach:   | North Bound |   |    |   | South Bound |   |   |    | East Bound  |    |    |   | West Bound  |   |    |    |   |    |   |    |
|-------------|-------------|---|----|---|-------------|---|---|----|-------------|----|----|---|-------------|---|----|----|---|----|---|----|
| Movement:   | L           | - | T  | - | R           | L | - | T  | -           | R  | L  | - | T           | - | R  | L  | - | T  | - | R  |
| Control:    | Protected   |   |    |   | Protected   |   |   |    | Split Phase |    |    |   | Split Phase |   |    |    |   |    |   |    |
| Rights:     | Include     |   |    |   | Include     |   |   |    | Include     |    |    |   | Include     |   |    |    |   |    |   |    |
| Min. Green: | 0           |   | 20 |   | 20          | 0 |   | 20 |             | 20 | 10 |   | 20          |   | 20 | 10 |   | 20 |   | 20 |
| Lanes:      | 0           | 0 | 1  | 1 | 1           | 0 | 0 | 1  | 1           | 1  | 0  | 0 | 1           | 0 | 1  | 0  | 1 | 0  | 1 | 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 194  | 281  | 0    | 144  | 30   | 31   | 97   | 18   | 32   | 31   | 34   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 194  | 281  | 0    | 144  | 30   | 31   | 97   | 18   | 32   | 31   | 34   |
| Added Vol:   | 0    | 0    | 79   | 0    | 0    | 0    | 0    | 0    | 0    | 154  | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 194  | 360  | 0    | 144  | 30   | 31   | 97   | 18   | 186  | 31   | 34   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 194  | 360  | 0    | 144  | 30   | 31   | 97   | 18   | 186  | 31   | 34   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 194  | 360  | 0    | 144  | 30   | 31   | 97   | 18   | 186  | 31   | 34   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.10 | 1.10 | 1.00 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 213  | 396  | 0    | 151  | 32   | 33   | 102  | 19   | 186  | 31   | 34   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 0.90 | 0.90 | 1.00 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.95 | 1.00 | 0.85 |
| Lanes:      | 0.00 | 1.05 | 1.95 | 0.00 | 1.65 | 0.35 | 0.43 | 1.32 | 0.25 | 1.00 | 1.00 | 1.00 |
| Final Sat.: | 0    | 1794 | 3336 | 0    | 3041 | 645  | 790  | 2442 | 455  | 1805 | 1900 | 1615 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.12 | 0.12 | 0.00 | 0.05 | 0.05 | 0.04 | 0.04 | 0.04 | 0.10 | 0.02 | 0.02 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.00 | 0.37 | 0.37 | 0.00 | 0.37 | 0.37 | 0.20 | 0.20 | 0.20 | 0.32 | 0.32 | 0.32 |
| Volume/Cap:  | 0.00 | 0.32 | 0.32 | 0.00 | 0.13 | 0.13 | 0.21 | 0.21 | 0.21 | 0.32 | 0.05 | 0.07 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 14.6 | 14.6 | 0.0  | 13.5 | 13.5 | 21.6 | 21.6 | 21.6 | 16.7 | 15.2 | 15.2 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 14.6 | 14.6 | 0.0  | 13.5 | 13.5 | 21.6 | 21.6 | 21.6 | 16.7 | 15.2 | 15.2 |
| Queue:       | 0    | 4    | 8    | 0    | 3    | 1    | 1    | 2    | 0    | 4    | 1    | 1    |

|   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
|---|--------------------------|--------------------------|------|-------------|------|------|------------|------|------|------------|-----------|------|---|---|---|---|---|---|
| C-PM.CMD  | Tue Nov 5, 1996 12:31:58 |                          |      |             |      |      |            |      |      |            | Page 16-1 |      |   |   |   |   |   |   |
| FISCO/Port Vision 2000 EIS/EIR  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Maximum Marine/Minimum Rail Alternative                                       |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| PM Peak Hour  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Level Of Service Computation Report   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| 1994 HCM Operations Method (Future Volume Alternative)                        |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| *****   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.                       |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| *****   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Cycle (sec):  | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      | 0.413      |           |      |   |   |   |   |   |   |
| Loss Time (sec):  | 10 (Y+R = 4 sec)         | Average Delay (sec/veh): |      |             |      |      |            |      |      | 17.6       |           |      |   |   |   |   |   |   |
| Optimal Cycle:  | 70                       | Level Of Service:        |      |             |      |      |            |      |      | C          |           |      |   |   |   |   |   |   |
| *****   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Approach:   | North Bound              |                          |      | South Bound |      |      | East Bound |      |      | West Bound |           |      |   |   |   |   |   |   |
| Movement:   | L                        | T                        | R    | L           | T    | R    | L          | T    | R    | L          | T         | R    |   |   |   |   |   |   |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Control:  | Protected                |                          |      | Protected   |      |      | Protected  |      |      | Protected  |           |      |   |   |   |   |   |   |
| Rights:   | Include                  |                          |      | Ovl         |      |      | Include    |      |      | Include    |           |      |   |   |   |   |   |   |
| Min. Green:   | 10                       | 20                       | 20   | 10          | 20   | 20   | 10         | 20   | 20   | 0          | 20        | 20   |   |   |   |   |   |   |
| Lanes:  | 2                        | 0                        | 0    | 1           | 0    | 0    | 0          | 2    | 1    | 0          | 2         | 0    | 0 | 0 | 0 | 1 | 1 | 0 |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----       |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Volume Module:  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Base Vol:   | 0                        | 197                      | 3    | 2           | 0    | 205  | 0          | 108  | 0    | 0          | 53        | 1    |   |   |   |   |   |   |
| Growth Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |   |   |   |
| Initial Bse:  | 0                        | 197                      | 3    | 2           | 0    | 205  | 0          | 108  | 0    | 0          | 53        | 1    |   |   |   |   |   |   |
| Added Vol:  | 381                      | 0                        | 0    | 0           | 0    | 316  | 447        | 11   | 0    | 0          | 3         | 0    |   |   |   |   |   |   |
| PasserByVol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |   |   |   |   |   |   |
| Initial Fut:  | 381                      | 197                      | 3    | 2           | 0    | 521  | 447        | 119  | 0    | 0          | 56        | 1    |   |   |   |   |   |   |
| User Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |   |   |   |
| PHF Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |   |   |   |
| PHF Volume:   | 381                      | 197                      | 3    | 2           | 0    | 521  | 447        | 119  | 0    | 0          | 56        | 1    |   |   |   |   |   |   |
| Reduct Vol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |   |   |   |   |   |   |
| Reduced Vol:  | 381                      | 197                      | 3    | 2           | 0    | 521  | 447        | 119  | 0    | 0          | 56        | 1    |   |   |   |   |   |   |
| PCE Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |   |   |   |
| MLF Adj:  | 1.03                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.13 | 1.00       | 1.05 | 1.00 | 1.00       | 1.05      | 1.05 |   |   |   |   |   |   |
| Final Vol.:   | 392                      | 197                      | 3    | 2           | 0    | 589  | 447        | 124  | 0    | 0          | 59        | 1    |   |   |   |   |   |   |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----       |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Saturation Flow Module:   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Sat/Lane:   | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900      | 1900 |   |   |   |   |   |   |
| Adjustment:   | 0.95                     | 1.00                     | 1.00 | 0.95        | 1.00 | 0.85 | 0.95       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |   |   |   |
| Lanes:  | 2.00                     | 0.98                     | 0.02 | 1.00        | 0.00 | 2.00 | 1.00       | 2.00 | 0.00 | 0.00       | 1.97      | 0.03 |   |   |   |   |   |   |
| Final Sat.:   | 3610                     | 1872                     | 29   | 1805        | 0    | 3230 | 1805       | 3800 | 0    | 0          | 3737      | 63   |   |   |   |   |   |   |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----       |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Capacity Analysis Module:   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Vol/Sat:  | 0.11                     | 0.11                     | 0.11 | 0.00        | 0.00 | 0.18 | 0.25       | 0.03 | 0.00 | 0.00       | 0.02      | 0.02 |   |   |   |   |   |   |
| Crit Moves:   | ****                     |                          |      | ****        |      |      | ****       |      |      | ****       |           |      |   |   |   |   |   |   |
| Green/Cycle:  | 0.15                     | 0.23                     | 0.23 | 0.12        | 0.00 | 0.55 | 0.35       | 0.55 | 0.00 | 0.00       | 0.20      | 0.20 |   |   |   |   |   |   |
| Volume/Cap:   | 0.71                     | 0.45                     | 0.45 | 0.01        | 0.00 | 0.33 | 0.71       | 0.06 | 0.00 | 0.00       | 0.08      | 0.08 |   |   |   |   |   |   |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----       |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Level Of Service Module:  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |
| Delay/Veh:  | 29.0                     | 21.6                     | 21.6 | 25.2        | 0.0  | 8.1  | 20.9       | 6.8  | 0.0  | 0.0        | 21.0      | 21.0 |   |   |   |   |   |   |
| User DelAdj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |   |   |   |
| AdjDel/Veh:   | 29.0                     | 21.6                     | 21.6 | 25.2        | 0.0  | 8.1  | 20.9       | 6.8  | 0.0  | 0.0        | 21.0      | 21.0 |   |   |   |   |   |   |
| Queue:  | 11                       | 5                        | 0    | 0           | 0    | 9    | 11         | 2    | 0    | 0          | 1         | 0    |   |   |   |   |   |   |
| *****   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |   |   |   |

|  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
|--|--------------------------|--------------------------|------|-------------|------|------|------------|------|------|------------|-----------|------|---|
| C-PM.CMD   | Tue Nov 5, 1996 12:31:58 |                          |      |             |      |      |            |      |      |            | Page 17-1 |      |   |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Maximum Marine/Minimum Rail Alternative                |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| PM Peak Hour   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Level Of Service Computation Report                    |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Intersection #16 7th St./ I-880 SB Ramps               |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      | 0.472      |           |      |   |
| Loss Time (sec):                                       | 5 (Y+R = 4 sec)          | Average Delay (sec/veh): |      |             |      |      |            |      |      | 5.7        |           |      |   |
| Optimal Cycle:   | 35                       | Level Of Service:        |      |             |      |      |            |      |      | B          |           |      |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound |      |      | West Bound |           |      |   |
| Movement:  | L                        | T                        | R    | L           | T    | R    | L          | T    | R    | L          | T         | R    |   |
| Control:   | Protected                |                          |      | Protected   |      |      | Protected  |      |      | Protected  |           |      |   |
| Rights:  | Include                  |                          |      | Include     |      |      | Include    |      |      | Include    |           |      |   |
| Min. Green:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 20   | 20   | 10         | 20        | 20   |   |
| Lanes:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 2    | 0    | 1          | 2         | 0    | 0 |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Volume Module:   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Base Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 7    | 378        | 0         | 0    |   |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |
| Initial Bse:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 7    | 378        | 0         | 0    |   |
| Added Vol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 458  | 543  | 0          | 700       | 0    |   |
| PasserByVol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |   |
| Initial Fut:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 458  | 550  | 378        | 700       | 0    |   |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |
| PHF Volume:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 458  | 550  | 378        | 700       | 0    |   |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |   |
| Reduced Vol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 458  | 550  | 378        | 700       | 0    |   |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |
| MLF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.05 | 1.00 | 1.03       | 1.05      | 1.00 |   |
| Final Vol.:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 481  | 550  | 389        | 735       | 0    |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Saturation Flow Module:                                |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900      | 1900 |   |
| Adjustment:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 0.85 | 0.95       | 1.00      | 1.00 |   |
| Lanes:   | 0.00                     | 0.00                     | 0.00 | 0.00        | 0.00 | 0.00 | 0.00       | 2.00 | 1.00 | 2.00       | 2.00      | 0.00 |   |
| Final Sat.:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 3800 | 1615 | 3610       | 3800      | 0    |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Capacity Analysis Module:                              |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Vol/Sat:   | 0.00                     | 0.00                     | 0.00 | 0.00        | 0.00 | 0.00 | 0.00       | 0.13 | 0.34 | 0.11       | 0.19      | 0.00 |   |
| Crit Moves:  |                          |                          |      |             |      |      |            |      | **** | ****       |           |      |   |
| Green/Cycle:   | 0.00                     | 0.00                     | 0.00 | 0.00        | 0.00 | 0.00 | 0.00       | 0.72 | 0.72 | 0.23       | 0.95      | 0.00 |   |
| Volume/Cap:  | 0.00                     | 0.00                     | 0.00 | 0.00        | 0.00 | 0.00 | 0.00       | 0.18 | 0.47 | 0.47       | 0.20      | 0.00 |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Level Of Service Module:                               |                          |                          |      |             |      |      |            |      |      |            |           |      |   |
| Delay/Veh:   | 0.0                      | 0.0                      | 0.0  | 0.0         | 0.0  | 0.0  | 0.0        | 2.9  | 4.0  | 21.9       | 0.1       | 0.0  |   |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |
| AdjDel/Veh:  | 0.0                      | 0.0                      | 0.0  | 0.0         | 0.0  | 0.0  | 0.0        | 2.9  | 4.0  | 21.9       | 0.1       | 0.0  |   |
| Queue:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 4    | 7    | 9          | 1         | 0    |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |

Table J.7-8 (Continued)

|   |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
|---|--------------------------|-----------------|--|------------------------------|-------------------|--|--|-------------------|--|--|-------------------|---|--|
| C-PM.CMD  | Tue Nov 5, 1996 12:31:58 |                 |  |                              |                   |  |  |                   |  |  | Page 18-1         |   |  |
| FISCO/Port Vision 2000 EIS/EIR<br>Maximum Marine/Minimum Rail Alternative<br>PM Peak Hour       |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| Level Of Service Computation Report<br>1994 HCM Unsignalized Method (Future Volume Alternative) |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| *****   |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| Intersection #17 14th St./ I-880 Frontage Rd.   |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| *****   |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| Average Delay (sec/veh):  |                          | 2.5             |  | Worst Case Level Of Service: |                   |  |  |                   |  |  |                   | D |  |
| *****   |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| Approach:   |                          | North Bound     |  |                              | South Bound       |  |  | East Bound        |  |  | West Bound        |   |  |
| Movement:   |                          | L - T - R       |  |                              | L - T - R         |  |  | L - T - R         |  |  | L - T - R         |   |  |
| Control:  |                          | Uncontrolled    |  |                              | Uncontrolled      |  |  | Stop Sign         |  |  | Stop Sign         |   |  |
| Rights:   |                          | Include         |  |                              | Include           |  |  | Include           |  |  | Include           |   |  |
| Lanes:  |                          | 0 0 1 1 0       |  |                              | 1 0 2 0 0         |  |  | 0 0 0 0 0         |  |  | 1 0 0 0 1         |   |  |
| ----- ----- ----- -----   |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| Volume Module:  |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| Base Vol:   |                          | 0 62 130        |  |                              | 4 0 0             |  |  | 0 0 0             |  |  | 115 0 7           |   |  |
| Growth Adj:   |                          | 1.00 1.00 1.00  |  |                              | 1.00 1.00 1.00    |  |  | 1.00 1.00 1.00    |  |  | 1.00 1.00 1.00    |   |  |
| Initial Bse:  |                          | 0 62 130        |  |                              | 4 0 0             |  |  | 0 0 0             |  |  | 115 0 7           |   |  |
| Added Vol:  |                          | 0 447 0         |  |                              | 0 316 0           |  |  | 0 0 0             |  |  | 0 0 0             |   |  |
| PasserByVol:  |                          | 0 0 0           |  |                              | 0 0 0             |  |  | 0 0 0             |  |  | 0 0 0             |   |  |
| Initial Fut:  |                          | 0 509 130       |  |                              | 4 316 0           |  |  | 0 0 0             |  |  | 115 0 7           |   |  |
| User Adj:   |                          | 1.00 1.00 1.00  |  |                              | 1.00 1.00 1.00    |  |  | 1.00 1.00 1.00    |  |  | 1.00 1.00 1.00    |   |  |
| PHF Adj:  |                          | 1.00 1.00 1.00  |  |                              | 1.00 1.00 1.00    |  |  | 1.00 1.00 1.00    |  |  | 1.00 1.00 1.00    |   |  |
| PHF Volume:   |                          | 0 509 130       |  |                              | 4 316 0           |  |  | 0 0 0             |  |  | 115 0 7           |   |  |
| Reduct Vol:   |                          | 0 0 0           |  |                              | 0 0 0             |  |  | 0 0 0             |  |  | 0 0 0             |   |  |
| Final Vol.:   |                          | 0 509 130       |  |                              | 4 316 0           |  |  | 0 0 0             |  |  | 115 0 7           |   |  |
| Adjusted Volume Module:   |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| Grade:  |                          | 0%              |  |                              | 0%                |  |  | 0%                |  |  | 0%                |   |  |
| % Cycle/Cars:   |                          | xxxx xxxx       |  |                              | xxxx xxxx         |  |  | xxxx xxxx         |  |  | xxxx xxxx         |   |  |
| % Truck/Comb:   |                          | xxxx xxxx       |  |                              | xxxx xxxx         |  |  | xxxx xxxx         |  |  | xxxx xxxx         |   |  |
| PCE Adj:  |                          | 1.10 1.00 1.00  |  |                              | 1.10 1.00 1.00    |  |  | 1.10 1.10 1.10    |  |  | 1.10 1.10 1.10    |   |  |
| Cycl/Car PCE:   |                          | xxxx xxxx       |  |                              | xxxx xxxx         |  |  | xxxx xxxx         |  |  | xxxx xxxx         |   |  |
| Trck/Cmb PCE:   |                          | xxxx xxxx       |  |                              | xxxx xxxx         |  |  | xxxx xxxx         |  |  | xxxx xxxx         |   |  |
| Adj Vol.:   |                          | 0 509 130       |  |                              | 4 316 0           |  |  | 0 0 0             |  |  | 127 0 8           |   |  |
| Critical Gap Module:  |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| MoveUp Time:xxxxx   |                          | xxxx xxxxx      |  |                              | 2.1 xxxx xxxxxx   |  |  | xxxxx xxxx xxxxxx |  |  | 3.4 xxxx 2.6      |   |  |
| Critical Gp:xxxxx   |                          | xxxx xxxxx      |  |                              | 5.5 xxxx xxxxxx   |  |  | xxxxx xxxx xxxxxx |  |  | 7.0 xxxx 5.5      |   |  |
| ----- ----- ----- -----   |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| Capacity Module:  |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| Cnflct Vol:   |                          | xxxx xxxx xxxxx |  |                              | 639 xxxx xxxxxx   |  |  | xxxx xxxx xxxxxx  |  |  | 894 xxxx 320      |   |  |
| Potent Cap.:  |                          | xxxx xxxx xxxxx |  |                              | 778 xxxx xxxxxx   |  |  | xxxx xxxx xxxxxx  |  |  | 284 xxxx 954      |   |  |
| Adj Cap:  |                          | xxxx xxxx xxxxx |  |                              | 1.00 xxxx xxxxxx  |  |  | xxxx xxxx xxxxxx  |  |  | 0.99 xxxx 1.00    |   |  |
| Move Cap.:  |                          | xxxx xxxx xxxxx |  |                              | 778 xxxx xxxxxx   |  |  | xxxx xxxx xxxxxx  |  |  | 282 xxxx 954      |   |  |
| ----- ----- ----- -----   |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| Level Of Service Module:  |                          |                 |  |                              |                   |  |  |                   |  |  |                   |   |  |
| Stopped Del:xxxxx   |                          | xxxx xxxxx      |  |                              | 4.7 xxxx xxxxxx   |  |  | xxxxx xxxx xxxxxx |  |  | 21.5 xxxx 3.8     |   |  |
| LOS by Move:  |                          | * * *           |  |                              | A * *             |  |  | * * *             |  |  | D * A             |   |  |
| Movement:   |                          | LT - LTR - RT   |  |                              | LT - LTR - RT     |  |  | LT - LTR - RT     |  |  | LT - LTR - RT     |   |  |
| Shared Cap.:  |                          | xxxx xxxx xxxxx |  |                              | xxxx xxxx xxxxx   |  |  | xxxx xxxx xxxxx   |  |  | xxxx xxxx xxxxx   |   |  |
| Shrd StpDel:xxxxx   |                          | xxxx xxxxx      |  |                              | xxxxx xxxx xxxxxx |  |  | xxxxx xxxx xxxxxx |  |  | xxxxx xxxx xxxxxx |   |  |
| Shared LOS:   |                          | * * *           |  |                              | * * *             |  |  | * * *             |  |  | * * *             |   |  |
| ApproachDel:  |                          | 0.0             |  |                              | 0.1               |  |  | 0.0               |  |  | 20.5              |   |  |

|  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
|--|--------------------------|--------------------------|------|-------------|------|------|------------|------|------|------------|-----------|------|---|---|---|
| C-PM.CMD   | Tue Nov 5, 1996 12:31:58 |                          |      |             |      |      |            |      |      |            | Page 19-1 |      |   |   |   |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Maximum Marine/Minimum Rail Alternative                |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| PM Peak Hour   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Level Of Service Computation Report                    |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Intersection #18 W.Grand Ave./ I-880 Frontage Rd.      |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      | 0.671      |           |      |   |   |   |
| Loss Time (sec):                                       | 11 (Y+R = 4 sec)         | Average Delay (sec/veh): |      |             |      |      |            |      |      | 22.3       |           |      |   |   |   |
| Optimal Cycle:   | 81                       | Level Of Service:        |      |             |      |      |            |      |      | C          |           |      |   |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound |      |      | West Bound |           |      |   |   |   |
| Movement:  | L                        | -                        | T    | -           | R    | L    | -          | T    | -    | R          | L         | -    | T | - | R |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Control:   | Split Phase              |                          |      | Split Phase |      |      | Protected  |      |      | Protected  |           |      |   |   |   |
| Rights:  | Include                  |                          |      | Include     |      |      | Include    |      |      | Include    |           |      |   |   |   |
| Min. Green:  | 10                       | 20                       | 20   | 10          | 20   | 20   | 10         | 20   | 20   | 10         | 20        | 20   |   |   |   |
| Lanes:   | 1                        | 0                        | 1    | 1           | 0    | 1    | 1          | 0    | 1    | 1          | 0         | 1    | 0 | 1 | 1 |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Volume Module:   |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Base Vol:  | 75                       | 72                       | 0    | 759         | 0    | 6    | 86         | 277  | 3    | 0          | 456       | 330  |   |   |   |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |
| Initial Bse:   | 75                       | 72                       | 0    | 759         | 0    | 6    | 86         | 277  | 3    | 0          | 456       | 330  |   |   |   |
| Added Vol:   | 0                        | 288                      | 160  | 0           | 213  | 0    | 0          | 110  | 0    | 103        | 81        | 0    |   |   |   |
| PasserByVol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |   |   |   |
| Initial Fut:   | 75                       | 360                      | 160  | 759         | 213  | 6    | 86         | 387  | 3    | 103        | 537       | 330  |   |   |   |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |
| PHF Volume:  | 75                       | 360                      | 160  | 759         | 213  | 6    | 86         | 387  | 3    | 103        | 537       | 330  |   |   |   |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0         | 0    |   |   |   |
| Reduced Vol:   | 75                       | 360                      | 160  | 759         | 213  | 6    | 86         | 387  | 3    | 103        | 537       | 330  |   |   |   |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |
| MLF Adj:   | 1.00                     | 1.05                     | 1.05 | 1.05        | 1.00 | 1.00 | 1.00       | 1.05 | 1.05 | 1.00       | 1.10      | 1.10 |   |   |   |
| Final Vol.:  | 75                       | 378                      | 168  | 797         | 213  | 6    | 86         | 406  | 3    | 103        | 590       | 363  |   |   |   |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Saturation Flow Module:                                |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900      | 1900 |   |   |   |
| Adjustment:  | 0.95                     | 0.95                     | 0.95 | 0.95        | 1.00 | 1.00 | 0.95       | 1.00 | 1.00 | 0.95       | 0.94      | 0.94 |   |   |   |
| Lanes:   | 1.00                     | 1.38                     | 0.62 | 2.00        | 0.97 | 0.03 | 1.00       | 1.99 | 0.01 | 1.00       | 1.86      | 1.14 |   |   |   |
| Final Sat.:  | 1805                     | 2499                     | 1111 | 3610        | 1848 | 52   | 1805       | 3772 | 28   | 1805       | 3317      | 2041 |   |   |   |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Capacity Analysis Module:                              |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Vol/Sat:   | 0.04                     | 0.15                     | 0.15 | 0.22        | 0.12 | 0.12 | 0.05       | 0.11 | 0.11 | 0.06       | 0.18      | 0.18 |   |   |   |
| Crit Moves:  | ****                     |                          |      | ****        |      |      | ****       |      |      | ****       |           |      |   |   |   |
| Green/Cycle:   | 0.22                     | 0.22                     | 0.22 | 0.32        | 0.32 | 0.32 | 0.10       | 0.24 | 0.24 | 0.12       | 0.26      | 0.26 |   |   |   |
| Volume/Cap:  | 0.19                     | 0.70                     | 0.70 | 0.70        | 0.36 | 0.36 | 0.48       | 0.45 | 0.45 | 0.48       | 0.70      | 0.70 |   |   |   |
| ----- ----- ----- -----                                |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Level Of Service Module:                               |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |
| Delay/Veh:   | 20.7                     | 25.2                     | 25.2 | 20.4        | 17.1 | 17.1 | 29.0       | 21.3 | 21.3 | 28.0       | 22.9      | 22.9 |   |   |   |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00      | 1.00 |   |   |   |
| AdjDel/Veh:  | 20.7                     | 25.2                     | 25.2 | 20.4        | 17.1 | 17.1 | 29.0       | 21.3 | 21.3 | 28.0       | 22.9      | 22.9 |   |   |   |
| Queue:   | 2                        | 10                       | 5    | 20          | 5    | 0    | 2          | 10   | 0    | 3          | 15        | 10   |   |   |   |
| *****  |                          |                          |      |             |      |      |            |      |      |            |           |      |   |   |   |



FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

Trip Generation Report

Forecast for AM Peak Hour

| Zone # | Subzone          | Amount  | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|--------|------------------|---------|----------------|---------|----------|----------|-----------|-------------|------------|
| 1      | New Harbor       | 1088.00 | Employees      | 0.26    | 0.05     | 283      | 54        | 337         | 5.3        |
|        | Zone 1 Subtotal  |         |                |         |          | 283      | 54        | 337         | 5.3        |
| 3      | J.I.T.           | 343.00  | Employees      | 0.40    | 0.09     | 137      | 31        | 168         | 2.7        |
|        | Zone 3 Subtotal  |         |                |         |          | 137      | 31        | 168         | 2.7        |
| 6      | Middle Harbr     | 516.00  | Employees      | 0.26    | 0.05     | 134      | 26        | 160         | 2.5        |
|        | Zone 6 Subtotal  |         |                |         |          | 134      | 26        | 160         | 2.5        |
| 7      | 7th St Harbr     | 613.00  | Employees      | 0.26    | 0.05     | 159      | 31        | 190         | 3.0        |
|        | Zone 7 Subtotal  |         |                |         |          | 159      | 31        | 190         | 3.0        |
| 8      | Outer Harbor     | 706.00  | Employees      | 0.26    | 0.05     | 184      | 35        | 219         | 3.5        |
|        | Zone 8 Subtotal  |         |                |         |          | 184      | 35        | 219         | 3.5        |
| 10     | New Park         | 1.00    | Total Trips    | 29.00   | 19.00    | 29       | 19        | 48          | 0.8        |
|        | Zone 10 Subtotal |         |                |         |          | 29       | 19        | 48          | 0.8        |
| 11     | New Harbor       | 1.00    | Trucks Inter   | 279.00  | 297.00   | 279      | 297       | 576         | 9.1        |
|        | Zone 11 Subtotal |         |                |         |          | 279      | 297       | 576         | 9.1        |
| 16     | Middle Harbr     | 1.00    | Trucks Inter   | 132.00  | 141.00   | 132      | 141       | 273         | 4.3        |
|        | Zone 16 Subtotal |         |                |         |          | 132      | 141       | 273         | 4.3        |
| 17     | 7th St Harbr     | 1.00    | Trucks Inter   | 158.00  | 168.00   | 158      | 168       | 326         | 5.2        |
|        | Zone 17 Subtotal |         |                |         |          | 158      | 168       | 326         | 5.2        |
| 18     | Outer Harbor     | 1.00    | Trucks Inter   | 181.00  | 193.00   | 181      | 193       | 374         | 5.9        |
|        | Zone 18 Subtotal |         |                |         |          | 181      | 193       | 374         | 5.9        |
| 21     | New Harbor       | 1.00    | Truck External | 497.00  | 529.00   | 497      | 529       | 1026        | 16.2       |
|        | Zone 21 Subtotal |         |                |         |          | 497      | 529       | 1026        | 16.2       |
| 23     | J.I.T.           | 1.00    | Truck External | 431.00  | 459.00   | 431      | 459       | 890         | 14.1       |
|        | Zone 23 Subtotal |         |                |         |          | 431      | 459       | 890         | 14.1       |
| 26     | Middle Harbr     | 1.00    | Truck External | 236.00  | 251.00   | 236      | 251       | 487         | 7.7        |
|        | Zone 26 Subtotal |         |                |         |          | 236      | 251       | 487         | 7.7        |
| 27     | 7th St Harbr     | 1.00    | Truck External | 280.00  | 298.00   | 280      | 298       | 578         | 9.1        |
|        | Zone 27 Subtotal |         |                |         |          | 280      | 298       | 578         | 9.1        |
| 28     | Outer Harbor     | 1.00    | Truck External | 323.00  | 343.00   | 323      | 343       | 666         | 10.5       |

FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

| Zone #           | Subzone | Amount | Units | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|------------------|---------|--------|-------|---------|----------|----------|-----------|-------------|------------|
| Zone 28 Subtotal |         |        |       |         |          | 323      | 343       | 666         | 10.5       |
| TOTAL            |         |        |       |         |          | 3443     | 2875      | 6318        | 100.0      |



Table J.7-9 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

## Trip Distribution Report

## Percent Of Trips Existing

| Zone | To Gates |     |     |     |      |      |      |      |       |
|------|----------|-----|-----|-----|------|------|------|------|-------|
|      | 3        | 4   | 5   | 11  | 12   | 13   | 14   | 15   | 16    |
| 1    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 3    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 6    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 7    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 8    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 10   | 0.0      | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 100.0 |
| 11   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 16   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 17   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 18   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 21   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 23   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 26   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 27   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 28   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

Turning Movement Report  
AM Peak Hour

| Volume Type                                 | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total Volume |
|---|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------------|
|   | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |              |
| #3 Maritime St./ Burma St.                  |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 5          | 78   | 0     | 0          | 287  | 0     | 0         | 0    | 5     | 0         | 0    | 0     | 375          |
| Added                                       | 0          | 253  | 0     | 0          | 387  | 178   | 107       | 0    | 0     | 0         | 0    | 0     | 925          |
| Total                                       | 5          | 331  | 0     | 0          | 674  | 178   | 107       | 0    | 5     | 0         | 0    | 0     | 1300         |
| #4 Maritime St./ 14th St.                   |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 91   | 39    | 103        | 261  | 0     | 0         | 0    | 0     | 22        | 0    | 87    | 603          |
| Added                                       | 404        | 171  | 0     | 0          | 281  | 106   | 82        | 0    | 382   | 0         | 0    | 0     | 1426         |
| Total                                       | 404        | 262  | 39    | 103        | 542  | 106   | 82        | 0    | 382   | 22        | 0    | 87    | 2029         |
| #5 Maritime St./ 7th St. Extension          |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 159        | 0    | 0     | 0          | 0    | 334   | 69        | 0    | 37    | 0         | 0    | 0     | 599          |
| Added                                       | 947        | 335  | 0     | 0          | 384  | 279   | 240       | 0    | 868   | 0         | 0    | 0     | 3053         |
| Total                                       | 1106       | 335  | 0     | 0          | 384  | 613   | 309       | 0    | 905   | 0         | 0    | 0     | 3652         |
| #6 7th St./ 7th St. Extension               |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 54    | 54           |
| Added                                       | 0          | 0    | 0     | 620        | 0    | 632   | 577       | 303  | 0     | 0         | 375  | 705   | 3213         |
| Total                                       | 0          | 0    | 0     | 620        | 0    | 632   | 577       | 303  | 0     | 0         | 375  | 759   | 3267         |
| #7  |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 53         | 0    | 45    | 0          | 0    | 0     | 0         | 0    | 39    | 208       | 338  | 0     | 683          |
| Added                                       | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 516  | 0     | 0         | 678  | 0     | 1194         |
| Total                                       | 53         | 0    | 45    | 0          | 0    | 0     | 0         | 516  | 39    | 208       | 1016 | 0     | 1877         |
| #8 Adeline St./ 3rd St.                     |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 8          | 0    | 31    | 26         | 0    | 26    | 8         | 6    | 29    | 50        | 59   | 56    | 299          |
| Added                                       | 0          | 793  | 0     | 0          | 1048 | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1841         |
| Total                                       | 8          | 793  | 31    | 26         | 1048 | 26    | 8         | 6    | 29    | 50        | 59   | 56    | 2140         |
| #9 7th/Middle Harbor Rd                     |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 1     | 1            |
| Added                                       | 17         | 0    | 368   | 0          | 0    | 0     | 0         | 513  | 3     | 399       | 609  | 0     | 1908         |
| Total                                       | 17         | 0    | 368   | 0          | 0    | 0     | 0         | 513  | 3     | 399       | 609  | 1     | 1909         |
| #10 New Harbor/Mid Harbor Rd                |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0            |
| Added                                       | 368        | 0    | 512   | 0          | 0    | 0     | 0         | 3    | 399   | 660       | 17   | 0     | 1960         |
| Total                                       | 368        | 0    | 512   | 0          | 0    | 0     | 0         | 3    | 399   | 660       | 17   | 0     | 1960         |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 33   | 0     | 16         | 28   | 47    | 48        | 394  | 438   | 0         | 300  | 9     | 1313         |
| Added                                       | 297        | 0    | 63    | 0          | 0    | 0     | 0         | 0    | 484   | 81        | 0    | 0     | 925          |
| Total                                       | 297        | 33   | 63    | 16         | 28   | 47    | 48        | 394  | 922   | 81        | 300  | 9     | 2238         |

## Table J.7-9 (Continued)

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|---|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR<br>Reduced Harbor Fill Alternative<br>AM Peak Hour |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Volume  | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |          | Total  |
| Type  | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right    | Volume |
| #13 Adeline St./ 5th St./ I-880 SB Ramp   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 72         | 109  | 165   | 256       | 51   | 0     | 0         | 169  | 364      | 1186   |
| Added   | 198        | 153                      | 442   | 0          | 209  | 0     | 0         | 0    | 270   | 570       | 0    | 0        | 1841   |
| Total   | 198        | 153                      | 442   | 72         | 318  | 165   | 256       | 51   | 270   | 570       | 169  | 364      | 3027   |
| #14 Union St./ 5th St./ I-880 North Ramps   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 175                      | 45    | 0          | 154  | 31    | 24        | 43   | 13    | 205       | 31   | 115      | 836    |
| Added   | 0          | 0                        | 270   | 0          | 0    | 0     | 0         | 0    | 0     | 198       | 0    | 0        | 468    |
| Total   | 0          | 175                      | 315   | 0          | 154  | 31    | 24        | 43   | 13    | 403       | 31   | 115      | 1304   |
| #15 7th St./ I-880 NB Ramps / Frontage Rd.  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 548                      | 21    | 17         | 0    | 94    | 0         | 16   | 0     | 0         | 62   | 1        | 759    |
| Added   | 697        | 0                        | 0     | 0          | 0    | 365   | 314       | 4    | 0     | 0         | 19   | 0        | 1399   |
| Total   | 697        | 548                      | 21    | 17         | 0    | 459   | 314       | 20   | 0     | 0         | 81   | 1        | 2158   |
| #16 7th St./ I-880 SB Ramps   |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 65        | 0    | 0        | 65     |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 318  | 605   | 0         | 1081 | 0        | 2003   |
| Total   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 318  | 605   | 65        | 1081 | 0        | 2068   |
| #17 14th St./ I-880 Frontage Rd.  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 89    | 30         | 0    | 0     | 0         | 0    | 0     | 140       | 0    | 6        | 265    |
| Added   | 0          | 314                      | 0     | 0          | 365  | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 679    |
| Total   | 0          | 314                      | 89    | 30         | 365  | 0     | 0         | 0    | 0     | 140       | 0    | 6        | 944    |
| #18 W.Grand Ave./ I-880 Frontage Rd.  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 9          | 0                        | 0     | 678        | 48   | 6     | 65        | 234  | 12    | 0         | 152  | 449      | 1653   |
| Added   | 0          | 162                      | 152   | 0          | 193  | 0     | 0         | 63   | 0     | 172       | 81   | 0        | 823    |
| Total   | 9          | 162                      | 152   | 678        | 241  | 6     | 65        | 297  | 12    | 172       | 233  | 449      | 2476   |
| #134  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 0      |
| Added   | 0          | 0                        | 750   | 0          | 0    | 0     | 0         | 490  | 0     | 799       | 568  | 0        | 2607   |
| Total   | 0          | 0                        | 750   | 0          | 0    | 0     | 0         | 490  | 0     | 799       | 568  | 0        | 2607   |
| #138  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -156                     | 0     | 0          | -173 | -26   | -24       | 0    | 0     | 0         | 0    | 0        | -379   |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 0      |
| Total   | 0          | -156                     | 0     | 0          | -173 | -26   | -24       | 0    | 0     | 0         | 0    | 0        | -379   |
| #158  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -180                     | -129  | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -309   |
| Added   | 0          | 210                      | 116   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 326    |
| Total   | 0          | 30                       | -13   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 17     |

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|---|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR<br>Reduced Harbor Fill Alternative<br>AM Peak Hour |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Volume  | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |          | Total  |
| Type  | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right    | Volume |
| #159  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | -180       | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -178 | 0        | -358   |
| Added   | 210        | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 171  | 0        | 381    |
| Total   | 30         | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -7   | 0        | 23     |
| #160  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -178      | -180 | 0        | -358   |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 171       | 210  | 0        | 381    |
| Total   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -7        | 30   | 0        | 23     |
| #161  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | -178 | 0     | 0         | 0    | -286  | 0         | 0    | 0        | -464   |
| Added   | 0          | 0                        | 0     | 0          | 171  | 0     | 0         | 0    | 365   | 0         | 0    | 0        | 536    |
| Total   | 0          | 0                        | 0     | 0          | -7   | 0     | 0         | 0    | 79    | 0         | 0    | 0        | 72     |
| #165  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | -227 | 0     | 0         | 0    | -495  | 0         | 0    | 0        | -722   |
| Added   | 0          | 0                        | 0     | 0          | 270  | 0     | 0         | 0    | 605   | 0         | 0    | 0        | 874    |
| Total   | 0          | 0                        | 0     | 0          | 43   | 0     | 0         | 0    | 110   | 0         | 0    | 0        | 152    |
| #170  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -153                     | -564  | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | -717   |
| Added   | 0          | 198                      | 697   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 895    |
| Total   | 0          | 45                       | 133   | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0        | 178    |
| #177  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | -351 | 0     | 0         | -129 | 0     | 0         | 0    | 0        | -480   |
| Added   | 0          | 0                        | 0     | 0          | 410  | 0     | 0         | 116  | 0     | 0         | 0    | 0        | 526    |
| Total   | 0          | 0                        | 0     | 0          | 59   | 0     | 0         | -13  | 0     | 0         | 0    | 0        | 46     |
| #178  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -266                     | 0     | 0          | 0    | 0     | -104      | -25  | 0     | 0         | 0    | 0        | -395   |
| Added   | 0          | 332                      | 0     | 0          | 0    | 0     | 75        | 41   | 0     | 0         | 0    | 0        | 447    |
| Total   | 0          | 66                       | 0     | 0          | 0    | 0     | -29       | 16   | 0     | 0         | 0    | 0        | 52     |
| #182  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | -370                     | 0     | 0          | 0    | -475  | 0         | 0    | 0     | 0         | 0    | 0        | -845   |
| Added   | 0          | 406                      | 0     | 0          | 0    | 506   | 0         | 0    | 0     | 0         | 0    | 0        | 912    |
| Total   | 0          | 36                       | 0     | 0          | 0    | 31    | 0         | 0    | 0     | 0         | 0    | 0        | 67     |
| #201  |            |                          |       |            |      |       |           |      |       |           |      |          |        |
| Base  | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | -932 | 0     | 0         | 0    | 0        | -932   |
| Added   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 1046 | 0     | 0         | 0    | 0        | 1046   |
| Total   | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 114  | 0     | 0         | 0    | 0        | 114    |

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|---------------------------------|------------|--------------------------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------|----------|--|
| FISCO/Port Vision 2000 EIS/EIR  |            |                          |       |            |      |       |           |      |       |           |      |       |        |          |  |
| Reduced Harbor Fill Alternative |            |                          |       |            |      |       |           |      |       |           |      |       |        |          |  |
| AM Peak Hour                    |            |                          |       |            |      |       |           |      |       |           |      |       |        |          |  |
| Volume                          | Northbound |                          |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total  |          |  |
| Type                            | Left       | Thru                     | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume |          |  |
| #204                            |            |                          |       |            |      |       |           |      |       |           |      |       |        |          |  |
| Base                            | 0          | 0                        | 0     | -352       | -580 | 0     | 0         | 0    | 0     | 0         | 0    | 0     | -932   |          |  |
| Added                           | 0          | 0                        | 0     | 392        | 655  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1046   |          |  |
| Total                           | 0          | 0                        | 0     | 40         | 75   | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 114    |          |  |
| #207                            |            |                          |       |            |      |       |           |      |       |           |      |       |        |          |  |
| Base                            | 0          | -714                     | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | -396  | -1110  |          |  |
| Added                           | 0          | 835                      | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 432   | 1266   |          |  |
| Total                           | 0          | 121                      | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 36    | 156    |          |  |
| #214                            |            |                          |       |            |      |       |           |      |       |           |      |       |        |          |  |
| Base                            | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -546      | -564 | 0     | -1110  |          |  |
| Added                           | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 570       | 697  | 0     | 1266   |          |  |
| Total                           | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 24        | 133  | 0     | 156    |          |  |
| #217                            |            |                          |       |            |      |       |           |      |       |           |      |       |        |          |  |
| Base                            | 0          | 0                        | 0     | 0          | -45  | 0     | 0         | -25  | 0     | 0         | 0    | 0     | -70    |          |  |
| Added                           | 0          | 0                        | 0     | 0          | 26   | 0     | 0         | 41   | 0     | 0         | 0    | 0     | 67     |          |  |
| Total                           | 0          | 0                        | 0     | 0          | -19  | 0     | 0         | 16   | 0     | 0         | 0    | 0     | -3     |          |  |
| #218                            |            |                          |       |            |      |       |           |      |       |           |      |       |        |          |  |
| Base                            | 0          | -21                      | 0     | 0          | 0    | 0     | -21       | -4   | 0     | 0         | 0    | 0     | -46    |          |  |
| Added                           | 0          | 9                        | 0     | 0          | 0    | 0     | 37        | 4    | 0     | 0         | 0    | 0     | 50     |          |  |
| Total                           | 0          | -12                      | 0     | 0          | 0    | 0     | 16        | -0   | 0     | 0         | 0    | 0     | 4      |          |  |
| #219                            |            |                          |       |            |      |       |           |      |       |           |      |       |        |          |  |
| Base                            | 0          | -43                      | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -20  | 0     | -63    |          |  |
| Added                           | 0          | 46                       | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 20   | 0     | 67     |          |  |
| Total                           | 0          | 3                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 4      |          |  |
| #220                            |            |                          |       |            |      |       |           |      |       |           |      |       |        |          |  |
| Base                            | 0          | 0                        | 0     | 0          | -45  | -34   | 0         | 0    | 0     | 0         | -20  | 0     | -99    |          |  |
| Added                           | 0          | 0                        | 0     | 0          | 26   | 55    | 0         | 0    | 0     | 0         | 20   | 0     | 100    |          |  |
| Total                           | 0          | 0                        | 0     | 0          | -19  | 21    | 0         | 0    | 0     | 0         | 0    | 0     | 1      |          |  |
| #225                            |            |                          |       |            |      |       |           |      |       |           |      |       |        |          |  |
| Base                            | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -396 | -20   | -416   |          |  |
| Added                           | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 432  | 20    | 452    |          |  |
| Total                           | 0          | 0                        | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 36   | 0     | 36     |          |  |
| #226                            |            |                          |       |            |      |       |           |      |       |           |      |       |        |          |  |
| Base                            | 0          | 0                        | 0     | -4         | 0    | 0     | 0         | -352 | 0     | 0         | 0    | 0     | -356   |          |  |
| Added                           | 0          | 0                        | 0     | 4          | 0    | 0     | 0         | 392  | 0     | 0         | 0    | 0     | 395    |          |  |
| Total                           | 0          | 0                        | 0     | -0         | 0    | 0     | 0         | 40   | 0     | 0         | 0    | 0     | 39     |          |  |

|                                 |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
|---------------------------------|------------|------|--------------------------|------------|------|-------|-----------|------|-------|-----------|------|-------|----------|--|
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| -----                           |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| FISCO/Port Vision 2000 EIS/EIR  |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| Reduced Harbor Fill Alternative |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| AM Peak Hour                    |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| -----                           |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| Volume                          | Northbound |      |                          | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total    |  |
| Type                            | Left       | Thru | Right                    | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume   |  |
| -----                           |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| #244                            |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| Base                            | 0          | 0    | 0                        | 0          | 0    | -288  | -312      | -47  | 0     | 0         | -45  | 0     | -692     |  |
| Added                           | 0          | 0    | 0                        | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0        |  |
| Total                           | 0          | 0    | 0                        | 0          | 0    | -288  | -312      | -47  | 0     | 0         | -45  | 0     | -692     |  |

## Table J.7-9 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

| Volume | NB Link |     |       | SB Link |     |       | EB Link |     |       | WB Link |     |       | Total  |
|--------|---------|-----|-------|---------|-----|-------|---------|-----|-------|---------|-----|-------|--------|
| Type   | In      | Out | Total | In      | Out | Total | In      | Out | Total | In      | Out | Total | Volume |

|  |      |      |      |      |      |      |     |      |      |      |      |      |      |
|--|------|------|------|------|------|------|-----|------|------|------|------|------|------|
| #13 Adeline St./ 5th St./ I-880 SB Ramp    |      |      |      |      |      |      |     |      |      |      |      |      |      |
| Base                                       | 0    | 109  | 109  | 346  | 620  | 966  | 307 | 334  | 641  | 533  | 123  | 656  | 2372 |
| Added                                      | 793  | 1048 | 1841 | 209  | 153  | 361  | 270 | 198  | 468  | 570  | 442  | 1011 | 3681 |
| Total                                      | 793  | 1157 | 1950 | 555  | 773  | 1327 | 577 | 532  | 1109 | 1103 | 565  | 1667 | 6053 |
|  |      |      |      |      |      |      |     |      |      |      |      |      |      |
| #14 Union St./ 5th St./ I-880 North Ramps  |      |      |      |      |      |      |     |      |      |      |      |      |      |
| Base                                       | 220  | 372  | 592  | 185  | 314  | 499  | 80  | 62   | 142  | 351  | 88   | 439  | 1672 |
| Added                                      | 270  | 198  | 468  | 0    | 0    | 0    | 0   | 0    | 0    | 198  | 270  | 468  | 933  |
| Total                                      | 490  | 570  | 1060 | 185  | 314  | 499  | 80  | 62   | 142  | 549  | 358  | 907  | 2607 |
|  |      |      |      |      |      |      |     |      |      |      |      |      |      |
| #15 7th St./ I-880 NB Ramps / Frontage Rd. |      |      |      |      |      |      |     |      |      |      |      |      |      |
| Base                                       | 569  | 0    | 569  | 111  | 549  | 660  | 16  | 156  | 172  | 63   | 54   | 117  | 1518 |
| Added                                      | 697  | 0    | 697  | 365  | 314  | 679  | 318 | 1081 | 1399 | 19   | 4    | 24   | 2798 |
| Total                                      | 1266 | 0    | 1266 | 476  | 863  | 1339 | 334 | 1237 | 1571 | 82   | 58   | 141  | 4316 |
|  |      |      |      |      |      |      |     |      |      |      |      |      |      |
| #16 7th St./ I-880 SB Ramps                |      |      |      |      |      |      |     |      |      |      |      |      |      |
| Base                                       | 0    | 65   | 65   | 0    | 0    | 0    | 0   | 0    | 0    | 65   | 0    | 65   | 130  |
| Added                                      | 0    | 605  | 605  | 0    | 0    | 0    | 923 | 1081 | 2003 | 1081 | 318  | 1399 | 4007 |
| Total                                      | 0    | 670  | 670  | 0    | 0    | 0    | 923 | 1081 | 2003 | 1146 | 318  | 1464 | 4137 |
|  |      |      |      |      |      |      |     |      |      |      |      |      |      |
| #17 14th St./ I-880 Frontage Rd.           |      |      |      |      |      |      |     |      |      |      |      |      |      |
| Base                                       | 89   | 140  | 229  | 30   | 6    | 36   | 0   | 0    | 0    | 146  | 119  | 265  | 530  |
| Added                                      | 314  | 365  | 679  | 365  | 314  | 679  | 0   | 0    | 0    | 0    | 0    | 0    | 1357 |
| Total                                      | 403  | 505  | 908  | 395  | 320  | 715  | 0   | 0    | 0    | 146  | 119  | 265  | 1887 |
|  |      |      |      |      |      |      |     |      |      |      |      |      |      |
| #18 W.Grand Ave./ I-880 Frontage Rd.       |      |      |      |      |      |      |     |      |      |      |      |      |      |
| Base                                       | 9    | 60   | 69   | 732  | 514  | 1246 | 311 | 167  | 478  | 601  | 912  | 1513 | 3306 |
| Added                                      | 314  | 365  | 679  | 193  | 162  | 354  | 63  | 81   | 144  | 253  | 215  | 468  | 1645 |
| Total                                      | 323  | 425  | 748  | 925  | 676  | 1600 | 374 | 248  | 622  | 854  | 1127 | 1981 | 4951 |
|  |      |      |      |      |      |      |     |      |      |      |      |      |      |
| #134                                       |      |      |      |      |      |      |     |      |      |      |      |      |      |
| Base                                       | 0    | 0    | 0    | 0    | 0    | 0    | 0   | 0    | 0    | 0    | 0    | 0    | 0    |
| Added                                      | 750  | 799  | 1549 | 0    | 0    | 0    | 490 | 568  | 1058 | 1367 | 1240 | 2607 | 5214 |
| Total                                      | 750  | 799  | 1549 | 0    | 0    | 0    | 490 | 568  | 1058 | 1367 | 1240 | 2607 | 5214 |
|  |      |      |      |      |      |      |     |      |      |      |      |      |      |
| #138                                       |      |      |      |      |      |      |     |      |      |      |      |      |      |
| Base                                       | -156 | -173 | -329 | -199 | -180 | -379 | -24 | -26  | -50  | 0    | 0    | 0    | -758 |
| Added                                      | 0    | 0    | 0    | 0    | 0    | 0    | 0   | 0    | 0    | 0    | 0    | 0    | 0    |
| Total                                      | -156 | -173 | -329 | -199 | -180 | -379 | -24 | -26  | -50  | 0    | 0    | 0    | -758 |
|  |      |      |      |      |      |      |     |      |      |      |      |      |      |
| #158                                       |      |      |      |      |      |      |     |      |      |      |      |      |      |
| Base                                       | -309 | 0    | -309 | 0    | -180 | -180 | 0   | 0    | 0    | 0    | -129 | -129 | -618 |
| Added                                      | 326  | 0    | 326  | 0    | 210  | 210  | 0   | 0    | 0    | 0    | 116  | 116  | 651  |
| Total                                      | 17   | 0    | 17   | 0    | 30   | 30   | 0   | 0    | 0    | 0    | -13  | -13  | 33   |



Table J.7-9 (Continued)

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|---------------------------------|---------|--------------------------|-------|---------|------|-------|---------|------|-------|---------|------|-------|----------|--|
| FISCO/Port Vision 2000 EIS/EIR  |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Reduced Harbor Fill Alternative |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| AM Peak Hour                    |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Volume                          | NB Link |                          |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total    |  |
| Type                            | In      | Out                      | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | Volume   |  |
| #159                            |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                            | -180    | 0                        | -180  | 0       | 0    | 0     | 0       | -358 | -358  | -178    | 0    | -178  | -716     |  |
| Added                           | 210     | 0                        | 210   | 0       | 0    | 0     | 0       | 381  | 381   | 171     | 0    | 171   | 761      |  |
| Total                           | 30      | 0                        | 30    | 0       | 0    | 0     | 0       | 23   | 23    | -7      | 0    | -7    | 45       |  |
| #160                            |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                            | 0       | -178                     | -178  | 0       | 0    | 0     | 0       | -180 | -180  | -358    | 0    | -358  | -716     |  |
| Added                           | 0       | 171                      | 171   | 0       | 0    | 0     | 0       | 210  | 210   | 381     | 0    | 381   | 761      |  |
| Total                           | 0       | -7                       | -7    | 0       | 0    | 0     | 0       | 30   | 30    | 23      | 0    | 23    | 45       |  |
| #161                            |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                            | 0       | -464                     | -464  | -178    | 0    | -178  | -286    | 0    | -286  | 0       | 0    | 0     | -928     |  |
| Added                           | 0       | 536                      | 536   | 171     | 0    | 171   | 365     | 0    | 365   | 0       | 0    | 0     | 1072     |  |
| Total                           | 0       | 72                       | 72    | -7      | 0    | -7    | 79      | 0    | 79    | 0       | 0    | 0     | 144      |  |
| #165                            |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                            | 0       | -722                     | -722  | -227    | 0    | -227  | -495    | 0    | -495  | 0       | 0    | 0     | -1444    |  |
| Added                           | 0       | 874                      | 874   | 270     | 0    | 270   | 605     | 0    | 605   | 0       | 0    | 0     | 1748     |  |
| Total                           | 0       | 152                      | 152   | 43      | 0    | 43    | 110     | 0    | 110   | 0       | 0    | 0     | 304      |  |
| #170                            |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                            | -717    | 0                        | -717  | 0       | -153 | -153  | 0       | 0    | 0     | 0       | -564 | -564  | -1434    |  |
| Added                           | 895     | 0                        | 895   | 0       | 198  | 198   | 0       | 0    | 0     | 0       | 697  | 697   | 1790     |  |
| Total                           | 178     | 0                        | 178   | 0       | 45   | 45    | 0       | 0    | 0     | 0       | 133  | 133   | 356      |  |
| #177                            |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                            | 0       | -351                     | -351  | -351    | 0    | -351  | -129    | 0    | -129  | 0       | -129 | -129  | -960     |  |
| Added                           | 0       | 410                      | 410   | 410     | 0    | 410   | 116     | 0    | 116   | 0       | 116  | 116   | 1052     |  |
| Total                           | 0       | 59                       | 59    | 59      | 0    | 59    | -13     | 0    | -13   | 0       | -13  | -13   | 92       |  |
| #178                            |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                            | -266    | 0                        | -266  | 0       | -370 | -370  | -129    | 0    | -129  | 0       | -25  | -25   | -790     |  |
| Added                           | 332     | 0                        | 332   | 0       | 406  | 406   | 116     | 0    | 116   | 0       | 41   | 41    | 895      |  |
| Total                           | 66      | 0                        | 66    | 0       | 36   | 36    | -13     | 0    | -13   | 0       | 16   | 16    | 105      |  |
| #182                            |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                            | -370    | 0                        | -370  | -475    | -370 | -845  | 0       | -475 | -475  | 0       | 0    | 0     | -1690    |  |
| Added                           | 406     | 0                        | 406   | 506     | 406  | 912   | 0       | 506  | 506   | 0       | 0    | 0     | 1824     |  |
| Total                           | 36      | 0                        | 36    | 31      | 36   | 67    | 0       | 31   | 31    | 0       | 0    | 0     | 134      |  |
| #201                            |         |                          |       |         |      |       |         |      |       |         |      |       |          |  |
| Base                            | 0       | 0                        | 0     | 0       | 0    | 0     | -932    | 0    | -932  | 0       | -932 | -932  | -1864    |  |
| Added                           | 0       | 0                        | 0     | 0       | 0    | 0     | 1046    | 0    | 1046  | 0       | 1046 | 1046  | 2093     |  |
| Total                           | 0       | 0                        | 0     | 0       | 0    | 0     | 114     | 0    | 114   | 0       | 114  | 114   | 229      |  |

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|---------------------------------|---------|--------------------------|-------|---------|-------|-------|---------|------|-------|---------|------|----------|--------|
| FISCO/Port Vision 2000 EIS/EIR  |         |                          |       |         |       |       |         |      |       |         |      |          |        |
| Reduced Harbor Fill Alternative |         |                          |       |         |       |       |         |      |       |         |      |          |        |
| AM Peak Hour                    |         |                          |       |         |       |       |         |      |       |         |      |          |        |
| Volume                          | NB Link |                          |       | SB Link |       |       | EB Link |      |       | WB Link |      |          | Total  |
| Type                            | In      | Out                      | Total | In      | Out   | Total | In      | Out  | Total | In      | Out  | Total    | Volume |
| #204                            |         |                          |       |         |       |       |         |      |       |         |      |          |        |
| Base                            | 0       | -580                     | -580  | -932    | 0     | -932  | 0       | 0    | 0     | 0       | -352 | -352     | -1864  |
| Added                           | 0       | 655                      | 655   | 1046    | 0     | 1046  | 0       | 0    | 0     | 0       | 392  | 392      | 2093   |
| Total                           | 0       | 75                       | 75    | 114     | 0     | 114   | 0       | 0    | 0     | 0       | 40   | 40       | 229    |
| #207                            |         |                          |       |         |       |       |         |      |       |         |      |          |        |
| Base                            | -714    | 0                        | -714  | 0       | -1110 | -1110 | 0       | 0    | 0     | -396    | 0    | -396     | -222   |
| Added                           | 835     | 0                        | 835   | 0       | 1266  | 1266  | 0       | 0    | 0     | 432     | 0    | 432      | 2533   |
| Total                           | 121     | 0                        | 121   | 0       | 156   | 156   | 0       | 0    | 0     | 36      | 0    | 36       | 313    |
| #214                            |         |                          |       |         |       |       |         |      |       |         |      |          |        |
| Base                            | 0       | -546                     | -546  | 0       | 0     | 0     | 0       | -564 | -564  | -1110   | 0    | -1110    | -2220  |
| Added                           | 0       | 570                      | 570   | 0       | 0     | 0     | 0       | 697  | 697   | 1266    | 0    | 1266     | 2533   |
| Total                           | 0       | 24                       | 24    | 0       | 0     | 0     | 0       | 133  | 133   | 156     | 0    | 156      | 313    |
| #217                            |         |                          |       |         |       |       |         |      |       |         |      |          |        |
| Base                            | 0       | -45                      | -45   | -45     | 0     | -45   | -25     | 0    | -25   | 0       | -25  | -25      | -140   |
| Added                           | 0       | 26                       | 26    | 26      | 0     | 26    | 41      | 0    | 41    | 0       | 41   | 41       | 134    |
| Total                           | 0       | -19                      | -19   | -19     | 0     | -19   | 16      | 0    | 16    | 0       | 16   | 16       | -6     |
| #218                            |         |                          |       |         |       |       |         |      |       |         |      |          |        |
| Base                            | -21     | 0                        | -21   | 0       | -42   | -42   | -25     | 0    | -25   | 0       | -4   | -4       | -92    |
| Added                           | 9       | 0                        | 9     | 0       | 46    | 46    | 41      | 0    | 41    | 0       | 4    | 4        | 101    |
| Total                           | -12     | 0                        | -12   | 0       | 4     | 4     | 16      | 0    | 16    | 0       | -0   | -0       | 9      |
| #219                            |         |                          |       |         |       |       |         |      |       |         |      |          |        |
| Base                            | -43     | 0                        | -43   | 0       | -43   | -43   | 0       | -20  | -20   | -20     | 0    | -20      | -126   |
| Added                           | 46      | 0                        | 46    | 0       | 46    | 46    | 0       | 20   | 20    | 20      | 0    | 20       | 133    |
| Total                           | 3       | 0                        | 3     | 0       | 3     | 3     | 0       | 0    | 0     | 0       | 0    | 0        | 7      |
| #220                            |         |                          |       |         |       |       |         |      |       |         |      |          |        |
| Base                            | 0       | -45                      | -45   | -79     | 0     | -79   | 0       | -54  | -54   | -20     | 0    | -20      | -198   |
| Added                           | 0       | 26                       | 26    | 80      | 0     | 80    | 0       | 75   | 75    | 20      | 0    | 20       | 201    |
| Total                           | 0       | -19                      | -19   | 1       | 0     | 1     | 0       | 21   | 21    | 0       | 0    | 0        | 3      |
| #225                            |         |                          |       |         |       |       |         |      |       |         |      |          |        |
| Base                            | 0       | 0                        | 0     | 0       | -20   | -20   | 0       | -396 | -396  | -416    | 0    | -416     | -832   |
| Added                           | 0       | 0                        | 0     | 0       | 20    | 20    | 0       | 432  | 432   | 452     | 0    | 452      | 904    |
| Total                           | 0       | 0                        | 0     | 0       | 0     | 0     | 0       | 36   | 36    | 36      | 0    | 36       | 72     |
| #226                            |         |                          |       |         |       |       |         |      |       |         |      |          |        |
| Base                            | 0       | 0                        | 0     | -4      | 0     | -4    | -352    | 0    | -352  | 0       | -356 | -356     | -712   |
| Added                           | 0       | 0                        | 0     | 4       | 0     | 4     | 392     | 0    | 392   | 0       | 395  | 395      | 791    |
| Total                           | 0       | 0                        | 0     | -0      | 0     | -0    | 40      | 0    | 40    | 0       | 39   | 39       | 79     |

Table J.7-9 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

| Volume | NB Link |     |       | SB Link |      |       | EB Link |      |       | WB Link |     |       | Total  |
|--------|---------|-----|-------|---------|------|-------|---------|------|-------|---------|-----|-------|--------|
| Type   | In      | Out | Total | In      | Out  | Total | In      | Out  | Total | In      | Out | Total | Volume |
| #244   |         |     |       |         |      |       |         |      |       |         |     |       |        |
| Base   | 0       | 0   | 0     | -288    | -312 | -600  | -359    | -333 | -692  | -45     | -47 | -92   | -1384  |
| Added  | 0       | 0   | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0   | 0     | 0      |
| Total  | 0       | 0   | 0     | -288    | -312 | -600  | -359    | -333 | -692  | -45     | -47 | -92   | -1384  |

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

| Impact Analysis Report<br>Level Of Service |                                 |   |      |       |        |      |        |       |       |        |     |  |
|--|---------------------------------|---|------|-------|--------|------|--------|-------|-------|--------|-----|--|
| Intersection                               |                                 |   | Base |       | Future |      | Change |       |       |        |     |  |
|  |                                 |   | Del/ | V/    | Del/   | V/   |        | in    |       |        |     |  |
|  |                                 |   | LOS  | Veh   | LOS    | Veh  |        |       |       |        |     |  |
| # 3  | Maritime St./ Burma St.         |   | B    | 6.3   | 0.089  | B    | 8.5    | 0.267 | +     | 2.127  | D/V |  |
| # 4  | Maritime St./ 14th St.          |   | C    | 15.0  | 0.161  | C    | 20.5   | 0.807 | +     | 5.511  | D/V |  |
| # 5  | Maritime St./ 7th St. Extension |   | B    | 12.7  | 0.071  | C    | 19.0   | 0.926 | +     | 6.292  | D/V |  |
| # 6  | 7th St./ 7th St. Extension      |   | B    | 11.8  | 0.000  | C    | 15.7   | 0.819 | +     | 3.884  | D/V |  |
| # 8  | Adeline St./ 3rd St.            |   | B    | 8.7   | 0.064  | F    | 82.2   | 0.673 | +     | 73.447 | D/V |  |
| # 9  | 7th/Middle Harbor Rd            |   | C    | 15.8  | 0.000  | C    | 16.7   | 0.643 | +     | 0.833  | D/V |  |
| # 10                                       | New Harbor/Mid Harbor Rd        |   |      | 0.0   | 0.000  | D    | 25.1   | 0.888 | +     | 25.103 | D/V |  |
| # 12                                       | Maritime St./ W.Grand Ave./ I-  | B | 12.0 | 0.242 | C      | 16.6 | 0.525  | +     | 4.626 | D/V    |     |  |
| # 13                                       | Adeline St./ 5th St./ I-880 SB  | C | 18.3 | 0.236 | C      | 24.3 | 0.838  | +     | 6.070 | D/V    |     |  |
| # 14                                       | Union St./ 5th St./ I-880 Nort  | C | 16.4 | 0.104 | C      | 17.6 | 0.395  | +     | 1.212 | D/V    |     |  |
| # 15                                       | 7th St./ I-880 NB Ramps / Fron  | B | 13.0 | 0.366 | C      | 21.3 | 0.565  | +     | 8.317 | D/V    |     |  |
| # 16                                       | 7th St./ I-880 SB Ramps         | A | 0.1  | 0.020 | A      | 1.4  | 0.414  | +     | 1.319 | D/V    |     |  |
| # 17                                       | 14th St./ I-880 Frontage Rd.    | A | 2.8  | 0.000 | C      | 3.0  | 0.000  | +     | 0.000 | V/C    |     |  |
| # 18                                       | W.Grand Ave./ I-880 Frontage R  | C | 19.9 | 0.237 | C      | 21.7 | 0.456  | +     | 1.890 | D/V    |     |  |

Table J.7-9 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #3 Maritime St./ Burma St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.267  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 8.5  
Optimal Cycle: 58 Level Of Service: B

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |   |   |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|---|---|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T | R |
| Control:    | Protected   |    |    | Protected   |    |    | Protected  |    |    | Protected  |   |   |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |   |   |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 0          | 0 | 0 |
| Lanes:      | 1           | 0  | 1  | 1           | 0  | 1  | 1          | 0  | 1  | 0          | 0 | 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 5    | 78   | 0    | 0    | 287  | 0    | 0    | 0    | 5    | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 5    | 78   | 0    | 0    | 287  | 0    | 0    | 0    | 5    | 0    | 0    | 0    |
| Added Vol:   | 0    | 253  | 0    | 0    | 387  | 178  | 107  | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 5    | 331  | 0    | 0    | 674  | 178  | 107  | 0    | 5    | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 5    | 331  | 0    | 0    | 674  | 178  | 107  | 0    | 5    | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 5    | 331  | 0    | 0    | 674  | 178  | 107  | 0    | 5    | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 5    | 348  | 0    | 0    | 708  | 187  | 107  | 0    | 5    | 0    | 0    | 0    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 2.00 | 0.00 | 1.00 | 1.58 | 0.42 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 1805 | 3800 | 0    | 1900 | 2916 | 770  | 1805 | 0    | 1615 | 0    | 0    | 0    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.09 | 0.00 | 0.00 | 0.24 | 0.24 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.10 | 0.48 | 0.00 | 0.00 | 0.62 | 0.62 | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.03 | 0.19 | 0.00 | 0.00 | 0.39 | 0.39 | 0.30 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 26.2 | 9.6  | 0.0  | 0.0  | 6.2  | 6.2  | 22.1 | 0.0  | 20.7 | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 26.2 | 9.6  | 0.0  | 0.0  | 6.2  | 6.2  | 22.1 | 0.0  | 20.7 | 0.0  | 0.0  | 0.0  |
| Queue:       | 0    | 6    | 0    | 0    | 10   | 3    | 3    | 0    | 0    | 0    | 0    | 0    |

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #4 Maritime St./ 14th St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.807  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 20.5  
Optimal Cycle: 67 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Permitted  |    |    | Permitted  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Ovl        |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 1           | 0  | 1  | 1           | 0  | 1  | 1          | 0  | 0  | 0          | 1  | 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 91   | 39   | 103  | 261  | 0    | 0    | 0    | 0    | 22   | 0    | 87   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 91   | 39   | 103  | 261  | 0    | 0    | 0    | 0    | 22   | 0    | 87   |
| Added Vol:   | 404  | 171  | 0    | 0    | 281  | 106  | 82   | 0    | 382  | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 404  | 262  | 39   | 103  | 542  | 106  | 82   | 0    | 382  | 22   | 0    | 87   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 404  | 262  | 39   | 103  | 542  | 106  | 82   | 0    | 382  | 22   | 0    | 87   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 404  | 262  | 39   | 103  | 542  | 106  | 82   | 0    | 382  | 22   | 0    | 87   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.05 | 1.05 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 404  | 275  | 41   | 103  | 569  | 111  | 82   | 0    | 382  | 22   | 0    | 87   |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.98 | 0.98 | 0.95 | 0.98 | 0.98 | 0.73 | 1.00 | 0.73 | 0.57 | 1.00 | 0.85 |
| Lanes:      | 1.00 | 1.74 | 0.26 | 1.00 | 1.67 | 0.33 | 0.18 | 0.00 | 0.82 | 1.00 | 0.00 | 1.00 |
| Final Sat.: | 1805 | 3241 | 483  | 1805 | 3116 | 608  | 244  | 0    | 1137 | 1083 | 0    | 1615 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.22 | 0.08 | 0.08 | 0.06 | 0.18 | 0.18 | 0.34 | 0.00 | 0.34 | 0.02 | 0.00 | 0.05 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.28 | 0.34 | 0.34 | 0.17 | 0.23 | 0.23 | 0.42 | 0.00 | 0.69 | 0.42 | 0.00 | 0.42 |
| Volume/Cap:  | 0.81 | 0.25 | 0.25 | 0.34 | 0.81 | 0.81 | 0.81 | 0.00 | 0.48 | 0.05 | 0.00 | 0.13 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 28.3 | 15.6 | 15.6 | 24.0 | 27.7 | 27.7 | 22.4 | 0.0  | 4.9  | 11.2 | 0.0  | 11.6 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 28.3 | 15.6 | 15.6 | 24.0 | 27.7 | 27.7 | 22.4 | 0.0  | 4.9  | 11.2 | 0.0  | 11.6 |
| Queue:       | 12   | 6    | 1    | 3    | 16   | 4    | 3    | 0    | 5    | 0    | 0    | 1    |

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AM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.926  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 19.0  
Optimal Cycle: 116 Level Of Service: C

| Approach:   | North Bound |    |   | South Bound |    |    | East Bound |   |    | West Bound |   |   |
|-------------|-------------|----|---|-------------|----|----|------------|---|----|------------|---|---|
| Movement:   | L           | T  | R | L           | T  | R  | L          | T | R  | L          | T | R |
| Control:    | Protected   |    |   | Protected   |    |    | Protected  |   |    | Protected  |   |   |
| Rights:     | Include     |    |   | Ovl         |    |    | Ovl        |   |    | Include    |   |   |
| Min. Green: | 10          | 20 | 0 | 0           | 20 | 20 | 10         | 0 | 20 | 0          | 0 | 0 |
| Lanes:      | 2           | 0  | 2 | 0           | 0  | 1  | 2          | 0 | 0  | 1          | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 159  | 0    | 0    | 0    | 0    | 334  | 69   | 0    | 37   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 159  | 0    | 0    | 0    | 0    | 334  | 69   | 0    | 37   | 0    | 0    | 0    |
| Added Vol:   | 947  | 335  | 0    | 0    | 384  | 279  | 240  | 0    | 868  | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 1106 | 335  | 0    | 0    | 384  | 613  | 309  | 0    | 905  | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 1106 | 335  | 0    | 0    | 384  | 613  | 309  | 0    | 905  | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 1106 | 335  | 0    | 0    | 384  | 613  | 309  | 0    | 905  | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.05 | 1.00 | 1.00 | 1.05 | 1.00 | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 1139 | 352  | 0    | 0    | 403  | 613  | 318  | 0    | 905  | 0    | 0    | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 3610 | 3800 | 0    | 0    | 3800 | 1615 | 3610 | 0    | 1615 | 0    | 0    | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.32 | 0.09 | 0.00 | 0.00 | 0.11 | 0.38 | 0.09 | 0.00 | 0.56 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      |      |      | **** |      |      | **** |      |      |      |
| Green/Cycle: | 0.35 | 0.65 | 0.00 | 0.00 | 0.31 | 0.57 | 0.27 | 0.00 | 0.61 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.91 | 0.14 | 0.00 | 0.00 | 0.35 | 0.66 | 0.33 | 0.00 | 0.91 | 0.00 | 0.00 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 27.7 | 4.3  | 0.0  | 0.0  | 17.5 | 10.7 | 19.0 | 0.0  | 19.9 | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 27.7 | 4.3  | 0.0  | 0.0  | 17.5 | 10.7 | 19.0 | 0.0  | 19.9 | 0.0  | 0.0  | 0.0  |
| Queue:       | 34   | 4    | 0    | 0    | 9    | 12   | 7    | 0    | 25   | 0    | 0    | 0    |

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## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.819  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 15.7  
Optimal Cycle: 70 Level Of Service: C

| Approach:   | North Bound |   |   | South Bound |   |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|---|---|-------------|---|----|------------|----|----|------------|----|----|
| Movement:   | L           | T | R | L           | T | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |   |   | Protected   |   |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |   |   | Include     |   |    | Include    |    |    | Ovl        |    |    |
| Min. Green: | 0           | 0 | 0 | 10          | 0 | 20 | 10         | 20 | 20 | 0          | 20 | 20 |
| Lanes:      | 0           | 0 | 0 | 2           | 0 | 0  | 2          | 0  | 2  | 0          | 0  | 1  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 54   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 54   |
| Added Vol:   | 0    | 0    | 0    | 620  | 0    | 632  | 577  | 303  | 0    | 0    | 375  | 705  |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 0    | 0    | 620  | 0    | 632  | 577  | 303  | 0    | 0    | 375  | 759  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 620  | 0    | 632  | 577  | 303  | 0    | 0    | 375  | 759  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 620  | 0    | 632  | 577  | 303  | 0    | 0    | 375  | 759  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.03 | 1.00 | 1.00 | 1.03 | 1.05 | 1.00 | 1.00 | 1.00 | 1.05 |
| Final Vol.:  | 0    | 0    | 0    | 638  | 0    | 632  | 594  | 318  | 0    | 0    | 375  | 797  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 1.00 | 2.00 | 2.00 | 0.00 | 0.00 | 1.00 | 2.00 |
| Final Sat.: | 0    | 0    | 0    | 3610 | 0    | 1615 | 3610 | 3800 | 0    | 0    | 1900 | 3230 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.18 | 0.00 | 0.39 | 0.16 | 0.08 | 0.00 | 0.00 | 0.20 | 0.25 |
| Crit Moves:  |      |      |      |      |      | **** | **** |      |      |      |      | **** |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.48 | 0.00 | 0.48 | 0.20 | 0.44 | 0.00 | 0.00 | 0.24 | 0.72 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.37 | 0.00 | 0.82 | 0.82 | 0.19 | 0.00 | 0.00 | 0.82 | 0.34 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 10.8 | 0.0  | 19.3 | 29.8 | 11.0 | 0.0  | 0.0  | 25.9 | 3.4  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 10.8 | 0.0  | 19.3 | 29.8 | 11.0 | 0.0  | 0.0  | 25.9 | 3.4  |
| Queue:       | 0    | 0    | 0    | 11   | 0    | 16   | 17   | 5    | 0    | 0    | 11   | 8    |



Table J.7-9 (Continued)

|  |                          |      |      |                         |      |      |             |      |      |             |      |       |           |
|--|--------------------------|------|------|-------------------------|------|------|-------------|------|------|-------------|------|-------|-----------|
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| FISCO/Port Vision 2000 EIS/EIR                         |                          |      |      |                         |      |      |             |      |      |             |      |       |           |
| Reduced Harbor Fill Alternative                        |                          |      |      |                         |      |      |             |      |      |             |      |       |           |
| AM Peak Hour   |                          |      |      |                         |      |      |             |      |      |             |      |       |           |
| Level Of Service Computation Report                    |                          |      |      |                         |      |      |             |      |      |             |      |       |           |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |      |      |                         |      |      |             |      |      |             |      |       |           |
| Intersection #8 Adeline St./ 3rd St.                   |                          |      |      |                         |      |      |             |      |      |             |      |       |           |
| Cycle (sec):   | 100                      |      |      | Critical Vol./Cap. (X): |      |      |             |      |      |             |      | 0.673 |           |
| Loss Time (sec):                                       | 12 (Y+R = 4 sec)         |      |      | Average Delay (sec/veh) |      |      |             |      |      |             |      | 82.2  |           |
| Optimal Cycle:   | 92                       |      |      | Level Of Service:       |      |      |             |      |      |             |      | F     |           |
| Approach:  | North Bound              |      |      | South Bound             |      |      | East Bound  |      |      | West Bound  |      |       |           |
| Movement:  | L                        | T    | R    | L                       | T    | R    | L           | T    | R    | L           | T    | R     |           |
| Control:   | Split Phase              |      |      | Split Phase             |      |      | Split Phase |      |      | Split Phase |      |       |           |
| Rights:  | Include                  |      |      | Include                 |      |      | Include     |      |      | Include     |      |       |           |
| Min. Green:  | 10                       | 20   | 20   | 10                      | 20   | 20   | 10          | 20   | 20   | 10          | 20   | 20    |           |
| Lanes:   | 0                        | 1    | 0    | 1                       | 0    | 1    | 0           | 1    | 0    | 1           | 0    | 1     |           |
| Volume Module:   |                          |      |      |                         |      |      |             |      |      |             |      |       |           |
| Base Vol:  | 8                        | 0    | 31   | 26                      | 0    | 26   | 8           | 6    | 29   | 50          | 59   | 56    |           |
| Growth Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                    | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  |           |
| Initial Bse:   | 8                        | 0    | 31   | 26                      | 0    | 26   | 8           | 6    | 29   | 50          | 59   | 56    |           |
| Added Vol:   | 0                        | 793  | 0    | 0                       | 1048 | 0    | 0           | 0    | 0    | 0           | 0    | 0     |           |
| PasserByVol:   | 0                        | 0    | 0    | 0                       | 0    | 0    | 0           | 0    | 0    | 0           | 0    | 0     |           |
| Initial Fut:   | 8                        | 793  | 31   | 26                      | 1048 | 26   | 8           | 6    | 29   | 50          | 59   | 56    |           |
| User Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                    | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  |           |
| PHF Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                    | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  |           |
| PHF Volume:  | 8                        | 793  | 31   | 26                      | 1048 | 26   | 8           | 6    | 29   | 50          | 59   | 56    |           |
| Reduct Vol:  | 0                        | 0    | 0    | 0                       | 0    | 0    | 0           | 0    | 0    | 0           | 0    | 0     |           |
| Reduced Vol:   | 8                        | 793  | 31   | 26                      | 1048 | 26   | 8           | 6    | 29   | 50          | 59   | 56    |           |
| PCE Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                    | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  |           |
| MLF Adj:   | 1.05                     | 1.05 | 1.05 | 1.05                    | 1.05 | 1.05 | 1.00        | 1.00 | 1.00 | 1.05        | 1.05 | 1.05  |           |
| Final Vol.:  | 8                        | 832  | 33   | 27                      | 1100 | 27   | 8           | 6    | 29   | 53          | 62   | 59    |           |
| Saturation Flow Module:                                |                          |      |      |                         |      |      |             |      |      |             |      |       |           |
| Sat/Lane:  | 1900                     | 1900 | 1900 | 1900                    | 1900 | 1900 | 1900        | 1900 | 1900 | 1900        | 1900 | 1900  |           |
| Adjustment:  | 0.99                     | 0.99 | 0.99 | 1.00                    | 1.00 | 1.00 | 0.97        | 0.97 | 0.85 | 0.94        | 0.94 | 0.94  |           |
| Lanes:   | 0.02                     | 1.91 | 0.07 | 0.05                    | 1.90 | 0.05 | 0.57        | 0.43 | 1.00 | 0.61        | 0.71 | 0.68  |           |
| Final Sat.:  | 34                       | 3585 | 142  | 89                      | 3622 | 89   | 1053        | 790  | 1615 | 1089        | 1273 | 1212  |           |
| Capacity Analysis Module:                              |                          |      |      |                         |      |      |             |      |      |             |      |       |           |
| Vol/Sat:   | 0.23                     | 0.23 | 0.23 | 0.30                    | 0.30 | 0.30 | 0.01        | 0.01 | 0.02 | 0.05        | 0.05 | 0.05  |           |
| Crit Moves:  | ****                     |      |      | ****                    |      |      | ****        |      |      | ****        |      |       |           |
| Green/Cycle:   | 0.21                     | 0.21 | 0.21 | 0.27                    | 0.27 | 0.27 | 0.20        | 0.20 | 0.20 | 0.20        | 0.20 | 0.20  |           |
| Volume/Cap:  | 1.12                     | 1.12 | 1.12 | 1.12                    | 1.12 | 1.12 | 0.04        | 0.04 | 0.09 | 0.24        | 0.24 | 0.24  |           |
| Level Of Service Module:                               |                          |      |      |                         |      |      |             |      |      |             |      |       |           |
| Delay/Veh:   | 91.7                     | 91.7 | 91.7 | 86.3                    | 86.3 | 86.3 | 20.8        | 20.8 | 21.1 | 21.8        | 21.8 | 21.8  |           |
| User DelAdj:   | 1.00                     | 1.00 | 1.00 | 1.00                    | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00  |           |
| AdjDel/Veh:  | 91.7                     | 91.7 | 91.7 | 86.3                    | 86.3 | 86.3 | 20.8        | 20.8 | 21.1 | 21.8        | 21.8 | 21.8  |           |
| Queue:   | 1                        | 42   | 3    | 3                       | 54   | 3    | 0           | 0    | 1    | 1           | 1    | 1     |           |

|  |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
|--|--------------------------|--------------------------|------|-------------|------|------|------------|------|------|------------|------|-------|-----------|
| D-AM.CMD   | Tue Nov 5, 1996 13:07:19 |                          |      |             |      |      |            |      |      |            |      |       | Page 11-1 |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Reduced Harbor Fill Alternative                        |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| AM Peak Hour   |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Level Of Service Computation Report                    |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Intersection #9 7th/Middle Harbor Rd                   |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Cycle (sec):   | 100                      | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      |            |      | 0.643 |           |
| Loss Time (sec):                                       | 8 (Y+R = 4 sec)          | Average Delay (sec/veh): |      |             |      |      |            |      |      |            |      | 16.7  |           |
| Optimal Cycle:   | 58                       | Level Of Service:        |      |             |      |      |            |      |      |            |      | C     |           |
| Approach:  | North Bound              |                          |      | South Bound |      |      | East Bound |      |      | West Bound |      |       |           |
| Movement:  | L                        | T                        | R    | L           | T    | R    | L          | T    | R    | L          | T    | R     |           |
| Control:   | Protected                |                          |      | Protected   |      |      | Protected  |      |      | Protected  |      |       |           |
| Rights:  | Include                  |                          |      | Include     |      |      | Include    |      |      | Include    |      |       |           |
| Min Green:   | 10                       | 0                        | 20   | 0           | 0    | 0    | 0          | 20   | 20   | 10         | 20   | 0     |           |
| Lanes:   | 1                        | 0                        | 0    | 0           | 1    | 0    | 0          | 0    | 1    | 1          | 0    | 1     | 0         |
| Volume Module:   |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Base Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 1     |           |
| Growth Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| Initial Bse:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 1     |           |
| Added Vol:   | 17                       | 0                        | 368  | 0           | 0    | 0    | 0          | 513  | 3    | 399        | 609  | 0     |           |
| PasserByVol:   | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |           |
| Initial Fut:   | 17                       | 0                        | 368  | 0           | 0    | 0    | 0          | 513  | 3    | 399        | 609  | 1     |           |
| User Adj:  | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| PHF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| PHF Volume:  | 17                       | 0                        | 368  | 0           | 0    | 0    | 0          | 513  | 3    | 399        | 609  | 1     |           |
| Reduct Vol:  | 0                        | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |           |
| Reduced Vol:   | 17                       | 0                        | 368  | 0           | 0    | 0    | 0          | 513  | 3    | 399        | 609  | 1     |           |
| PCE Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| MLF Adj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.05 | 1.05 | 1.00       | 1.05 | 1.05  |           |
| Final Vol.:  | 17                       | 0                        | 368  | 0           | 0    | 0    | 0          | 538  | 4    | 399        | 639  | 1     |           |
| Saturation Flow Module:                                |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Sat/Lane:  | 1900                     | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900  |           |
| Adjustment:  | 0.95                     | 1.00                     | 0.85 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 0.95       | 1.00 | 1.00  |           |
| Lanes:   | 1.00                     | 0.00                     | 1.00 | 0.00        | 0.00 | 0.00 | 0.00       | 1.99 | 0.01 | 1.00       | 1.99 | 0.01  |           |
| Final Sat.:  | 1805                     | 0                        | 1615 | 0           | 0    | 0    | 0          | 3772 | 28   | 1805       | 3794 | 6     |           |
| Capacity Analysis Module:                              |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Vol/Sat:   | 0.01                     | 0.00                     | 0.23 | 0.00        | 0.00 | 0.00 | 0.00       | 0.14 | 0.14 | 0.22       | 0.17 | 0.17  |           |
| Crit Moves:  | ****                     |                          |      | ****        |      |      | ****       |      |      | ****       |      |       |           |
| Green/Cycle:   | 0.35                     | 0.00                     | 0.35 | 0.00        | 0.00 | 0.00 | 0.00       | 0.22 | 0.22 | 0.34       | 0.57 | 0.57  |           |
| Volume/Cap:  | 0.03                     | 0.00                     | 0.64 | 0.00        | 0.00 | 0.00 | 0.00       | 0.64 | 0.64 | 0.64       | 0.30 | 0.30  |           |
| Level Of Service Module:                               |                          |                          |      |             |      |      |            |      |      |            |      |       |           |
| Delay/Veh:   | 13.6                     | 0.0                      | 19.2 | 0.0         | 0.0  | 0.0  | 0.0        | 24.0 | 24.0 | 19.5       | 7.4  | 7.4   |           |
| User DelAdj:   | 1.00                     | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |           |
| AdjDel/Veh:  | 13.6                     | 0.0                      | 19.2 | 0.0         | 0.0  | 0.0  | 0.0        | 24.0 | 24.0 | 19.5       | 7.4  | 7.4   |           |
| Queue:   | 0                        | 0                        | 9    | 0           | 0    | 0    | 0          | 14   | 0    | 10         | 9    | 0     |           |

FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #10 New Harbor/Mid Harbor Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.888  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 25.1  
Optimal Cycle: 94 Level Of Service: D

| Approach:   | North Bound |   |    |   | South Bound |   |   |   | East Bound |    |    |   | West Bound |    |   |  |
|-------------|-------------|---|----|---|-------------|---|---|---|------------|----|----|---|------------|----|---|--|
| Movement:   | L           | T | R  |   | L           | T | R |   | L          | T  | R  |   | L          | T  | R |  |
| Control:    | Protected   |   |    |   | Protected   |   |   |   | Protected  |    |    |   | Protected  |    |   |  |
| Rights:     | Ovl         |   |    |   | Include     |   |   |   | Include    |    |    |   | Include    |    |   |  |
| Min. Green: | 10          | 0 | 20 |   | 0           | 0 | 0 |   | 0          | 20 | 20 |   | 10         | 20 | 0 |  |
| Lanes:      | 1           | 0 | 0  | 1 | 0           | 0 | 0 | 0 | 0          | 0  | 1  | 1 | 0          | 1  | 0 |  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Added Vol:   | 368  | 0    | 512  | 0    | 0    | 0    | 0    | 3    | 399  | 660  | 17   | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 368  | 0    | 512  | 0    | 0    | 0    | 0    | 3    | 399  | 660  | 17   | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 368  | 0    | 512  | 0    | 0    | 0    | 0    | 3    | 399  | 660  | 17   | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 368  | 0    | 512  | 0    | 0    | 0    | 0    | 3    | 399  | 660  | 17   | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 |
| Final Vol.:  | 368  | 0    | 512  | 0    | 0    | 0    | 0    | 3    | 399  | 660  | 18   | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 2.00 | 0.00 |
| Final Sat.: | 1805 | 0    | 1615 | 0    | 0    | 0    | 0    | 1900 | 1615 | 1805 | 3800 | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.20 | 0.00 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.25 | 0.37 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      |      |      |      |      |      | **** |      |      |      |
| Green/Cycle: | 0.23 | 0.00 | 0.64 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.28 | 0.41 | 0.69 | 0.00 |
| Volume/Cap:  | 0.89 | 0.00 | 0.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.89 | 0.89 | 0.01 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 38.3 | 0.0  | 6.4  | 0.0  | 0.0  | 0.0  | 0.0  | 16.8 | 35.6 | 26.6 | 3.1  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 38.3 | 0.0  | 6.4  | 0.0  | 0.0  | 0.0  | 0.0  | 16.8 | 35.6 | 26.6 | 3.1  | 0.0  |
| Queue:       | 12   | 0    | 8    | 0    | 0    | 0    | 0    | 0    | 13   | 19   | 0    | 0    |

FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.525  
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 16.6  
Optimal Cycle: 70 Level Of Service: C

| Approach:   | North Bound |    |    |   | South Bound |    |    |   | East Bound |    |    |   | West Bound |    |    |  |
|-------------|-------------|----|----|---|-------------|----|----|---|------------|----|----|---|------------|----|----|--|
| Movement:   | L           | T  | R  |   | L           | T  | R  |   | L          | T  | R  |   | L          | T  | R  |  |
| Control:    | Protected   |    |    |   | Protected   |    |    |   | Protected  |    |    |   | Protected  |    |    |  |
| Rights:     | Include     |    |    |   | Include     |    |    |   | Include    |    |    |   | Include    |    |    |  |
| Min. Green: | 10          | 20 | 20 |   | 10          | 20 | 20 |   | 10         | 20 | 20 |   | 10         | 20 | 20 |  |
| Lanes:      | 2           | 0  | 0  | 1 | 0           | 0  | 1  | 0 | 1          | 0  | 1  | 1 | 1          | 0  | 1  |  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 33   | 0    | 16   | 28   | 47   | 48   | 394  | 438  | 0    | 300  | 9    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 33   | 0    | 16   | 28   | 47   | 48   | 394  | 438  | 0    | 300  | 9    |
| Added Vol:   | 297  | 0    | 63   | 0    | 0    | 0    | 0    | 0    | 484  | 81   | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 297  | 33   | 63   | 16   | 28   | 47   | 48   | 394  | 922  | 81   | 300  | 9    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 297  | 33   | 63   | 16   | 28   | 47   | 48   | 394  | 922  | 81   | 300  | 9    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 297  | 33   | 63   | 16   | 28   | 47   | 48   | 394  | 922  | 81   | 300  | 9    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 306  | 33   | 63   | 16   | 28   | 47   | 48   | 394  | 968  | 81   | 315  | 9    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.90 | 0.90 | 0.95 | 0.91 | 0.91 | 0.95 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 0.34 | 0.66 | 1.00 | 0.37 | 0.63 | 1.00 | 1.00 | 2.00 | 1.00 | 1.94 | 0.00 |
| Final Sat.: | 3610 | 588  | 1122 | 1805 | 645  | 1084 | 1805 | 1900 | 3230 | 1805 | 3694 | 106  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.08 | 0.06 | 0.06 | 0.01 | 0.04 | 0.04 | 0.03 | 0.21 | 0.30 | 0.04 | 0.09 | 0.09 |
| Crit Moves:  | **** |      |      |      |      |      |      |      | **** |      |      |      |
| Green/Cycle: | 0.13 | 0.22 | 0.22 | 0.11 | 0.20 | 0.20 | 0.19 | 0.47 | 0.47 | 0.10 | 0.38 | 0.38 |
| Volume/Cap:  | 0.64 | 0.25 | 0.25 | 0.08 | 0.22 | 0.22 | 0.14 | 0.44 | 0.64 | 0.45 | 0.23 | 0.23 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 28.6 | 20.8 | 20.8 | 25.8 | 21.7 | 21.7 | 21.8 | 11.6 | 13.5 | 28.6 | 13.7 | 13.7 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 28.6 | 20.8 | 20.8 | 25.8 | 21.7 | 21.7 | 21.8 | 11.6 | 13.5 | 28.6 | 13.7 | 13.7 |
| Queue:       | 8    | 1    | 1    | 0    | 1    | 1    | 1    | 7    | 21   | 2    | 6    | 0    |

Table J.7-9 (Continued)

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FISCO/Port Vision 2000 EIS/EIR

Reduced Harbor Fill Alternative

AM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #13 Adeline St./ 5th St./ I-880 SB Ramp

Cycle (sec):100Critical Vol./Cap. (X):0.838

Loss Time (sec):12 (Y+R = 4 sec)Average Delay (sec/veh):24.3

Optimal Cycle:87Level Of Service:C

Approach:North BoundSouth BoundEast BoundWest Bound

Movement:L - T - RL - T - RL - T - RL - T - R

Control:ProtectedProtectedSplit PhaseSplit Phase

Rights:OvlIncludeIncludeInclude

Min. Green:102020102020101020102020

Lanes:10110101101010011

Volume Module:

Base Vol:0007210916525651000169364

Growth Adj:1.001.001.001.001.001.001.001.001.001.001.001.00

Initial Bse:0007210916525651000169364

Added Vol:19815344202090000270570000

PasserByVol:0000000000000000

Initial Fut:1981534427231816525651270570169364

User Adj:1.001.001.001.001.001.001.001.001.001.001.000.50

PHF Adj:1.001.001.001.001.001.001.001.001.001.001.001.00

PHF Volume:1981534427231816525651270570169182

Reduct Vol:0000000000000000

Reduced Vol:1981534427231816525651270570169182

PCE Adj:1.001.001.001.001.001.001.001.001.001.001.001.00

MLF Adj:1.001.001.001.001.051.051.101.101.101.001.051.05

Final Vol.:1981534427233317328256297570177191

Saturation Flow Module:

Sat/Lane:19001900190019001900190019001900190019001900

Adjustment:0.951.000.850.950.950.950.910.910.910.950.920.92

Lanes:1.001.001.001.001.320.681.670.331.001.000.961.04

Final Sat.:18051900161518052376123428905741732180516821815

Capacity Analysis Module:

Vol/Sat:0.110.080.270.040.140.140.100.100.170.320.110.11

Crit Moves:\*\*\*\*\*\*\*\*

Green/Cycle:0.120.220.580.100.200.200.200.200.200.360.360.36

Volume/Cap:0.890.360.470.400.700.700.490.490.860.890.300.30

Level Of Service Module:

Delay/Veh:50.021.28.128.026.226.223.123.131.929.515.015.0

User DelAdj:1.001.001.001.001.001.001.001.001.001.001.001.00

AdjDel/Veh:50.021.28.128.026.226.223.123.131.929.515.015.0

Queue:74729571101744

|  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
|--|--------------------------|--|--|--|--|--|--|--|--|--|--|--|-----------|
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| FISCO/Port Vision 2000 EIS/EIR   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Reduced Harbor Fill Alternative  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| AM Peak Hour   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Level Of Service Computation Report                                      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| 1994 HCM Operations Method (Future Volume Alternative)                   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Intersection #14 Union St./ 5th St./ I-880 North Ramps                   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Cycle (sec): 100 Critical Vol./Cap. (X): 0.395                           |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Loss Time (sec): 11 (Y+R = 4 sec) Average Delay (sec/veh): 17.6          |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Optimal Cycle: 71 Level Of Service: C                                    |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Approach: North Bound South Bound East Bound West Bound                  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Movement: L - T - R L - T - R L - T - R L - T - R                        |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Control: Protected Protected Split Phase Split Phase                     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Rights: Include Include Include Include                                  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Min. Green: 0 20 20 0 20 20 10 20 20 10 20 20                            |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Lanes: 0 0 1 1 1 0 0 1 0 1 0 1 0 1 1 0                                   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Volume Module:   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Base Vol: 0 175 45 0 154 31 24 43 13 205 31 115                          |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Initial Bse: 0 175 45 0 154 31 24 43 13 205 31 115                       |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Added Vol: 0 0 270 0 0 0 0 0 0 198 0 0                                   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0                                     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Initial Fut: 0 175 315 0 154 31 24 43 13 403 31 115                      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00    |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PHF Volume: 0 175 315 0 154 31 24 43 13 403 31 115                       |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0                                      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Reduced Vol: 0 175 315 0 154 31 24 43 13 403 31 115                      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| MLF Adj: 1.00 1.10 1.10 1.00 1.05 1.05 1.05 1.05 1.05 1.00 1.00 1.00     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Final Vol.: 0 193 346 0 162 33 25 45 14 403 31 115                       |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Saturation Flow Module:  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900    |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Adjustment: 1.00 0.90 0.90 1.00 0.97 0.97 0.96 0.96 0.96 0.95 1.00 0.85  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Lanes: 0.00 1.07 1.93 0.00 1.66 0.34 0.60 1.07 0.33 1.00 1.00 1.00       |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Final Sat.: 0 1837 3293 0 3062 624 1086 1955 608 1805 1900 1615          |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Capacity Analysis Module:  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Vol/Sat: 0.00 0.11 0.11 0.00 0.05 0.05 0.02 0.02 0.02 0.22 0.02 0.07     |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Crit Moves: **** **** ****   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Green/Cycle: 0.00 0.22 0.22 0.00 0.22 0.22 0.20 0.20 0.20 0.47 0.47 0.47 |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Volume/Cap: 0.00 0.48 0.48 0.00 0.24 0.24 0.12 0.12 0.12 0.48 0.03 0.15  |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Level Of Service Module:   |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Delay/Veh: 0.0 22.2 22.2 0.0 20.7 20.7 21.2 21.2 21.2 12.0 9.3 9.8       |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| AdjDel/Veh: 0.0 22.2 22.2 0.0 20.7 20.7 21.2 21.2 21.2 12.0 9.3 9.8      |                          |  |  |  |  |  |  |  |  |  |  |  |           |
| Queue: 0 5 8 0 4 1 1 1 0 8 0 2   |                          |  |  |  |  |  |  |  |  |  |  |  |           |



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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.565  
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 21.3  
Optimal Cycle: 70 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Ovl         |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 0          | 20 | 20 |
| Lanes:      | 2           | 0  | 0  | 1           | 0  | 0  | 2          | 1  | 0  | 2          | 0  | 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 548  | 21   | 17   | 0    | 94   | 0    | 16   | 0    | 0    | 62   | 1    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 548  | 21   | 17   | 0    | 94   | 0    | 16   | 0    | 0    | 62   | 1    |
| Added Vol:   | 697  | 0    | 0    | 0    | 0    | 365  | 314  | 4    | 0    | 0    | 19   | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 697  | 548  | 21   | 17   | 0    | 459  | 314  | 20   | 0    | 0    | 81   | 1    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 697  | 548  | 21   | 17   | 0    | 459  | 314  | 20   | 0    | 0    | 81   | 1    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 697  | 548  | 21   | 17   | 0    | 459  | 314  | 20   | 0    | 0    | 81   | 1    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.13 | 1.00 | 1.05 | 1.00 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 718  | 548  | 21   | 17   | 0    | 518  | 314  | 21   | 0    | 0    | 85   | 1    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.99 | 0.99 | 0.95 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 0.96 | 0.04 | 1.00 | 0.00 | 2.00 | 1.00 | 2.00 | 0.00 | 0.00 | 1.98 | 0.02 |
| Final Sat.: | 3610 | 1812 | 69   | 1805 | 0    | 3230 | 1805 | 3800 | 0    | 0    | 3756 | 44   |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.20 | 0.30 | 0.30 | 0.01 | 0.00 | 0.16 | 0.17 | 0.01 | 0.00 | 0.00 | 0.02 | 0.02 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      | **** |      |
| Green/Cycle: | 0.28 | 0.38 | 0.38 | 0.10 | 0.00 | 0.42 | 0.22 | 0.42 | 0.00 | 0.00 | 0.20 | 0.20 |
| Volume/Cap:  | 0.71 | 0.79 | 0.79 | 0.09 | 0.00 | 0.38 | 0.79 | 0.01 | 0.00 | 0.00 | 0.11 | 0.11 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 22.5 | 22.0 | 22.0 | 26.4 | 0.0  | 13.1 | 31.2 | 11.0 | 0.0  | 0.0  | 21.2 | 21.2 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 22.5 | 22.0 | 22.0 | 26.4 | 0.0  | 13.1 | 31.2 | 11.0 | 0.0  | 0.0  | 21.2 | 21.2 |
| Queue:       | 18   | 15   | 1    | 0    | 0    | 10   | 9    | 0    | 0    | 0    | 2    | 0    |

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #16 7th St./ I-880 SB Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.414  
Loss Time (sec): 5 (Y+R = 4 sec) Average Delay (sec/veh): 1.4  
Optimal Cycle: 35 Level Of Service: A

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |    |    | West Bound |    |    |
|-------------|-------------|---|---|-------------|---|---|------------|----|----|------------|----|----|
| Movement:   | L           | T | R | L           | T | R | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |   |   | Protected   |   |   | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |   |   | Include     |   |   | Include    |    |    | Include    |    |    |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0  | 2  | 0          | 1  | 2  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 65   | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 65   | 0    | 0    |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 318  | 605  | 0    | 1081 | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 318  | 605  | 65   | 1081 | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 318  | 605  | 65   | 1081 | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 318  | 605  | 65   | 1081 | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 | 1.03 | 1.05 |
| Final Vol.:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 334  | 605  | 67   | 1135 | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 1.00 | 2.00 | 2.00 | 0.00 |
| Final Sat.: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 3800 | 1615 | 3610 | 3800 | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.37 | 0.02 | 0.30 | 0.00 |
| Crit Moves:  |      |      |      |      |      |      |      | **** | **** |      |      |      |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.85 | 0.85 | 0.10 | 0.95 | 0.00 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.44 | 0.19 | 0.31 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.8  | 1.3  | 26.7 | 0.1  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.8  | 1.3  | 26.7 | 0.1  | 0.0  |
| Queue:       | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 2    | 4    | 2    | 2    | 0    |





FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

Trip Generation Report

Forecast for PM Peak Hour

| Zone # | Subzone          | Amount  | Units          | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|--------|------------------|---------|----------------|---------|----------|----------|-----------|-------------|------------|
| 1      | New Harbor       | 1088.00 | Employees      | 0.06    | 0.22     | 65       | 239       | 304         | 5.4        |
|        | Zone 1 Subtotal  |         |                |         |          | 65       | 239       | 304         | 5.4        |
| 3      | J.I.T.           | 343.00  | Employees      | 0.10    | 0.36     | 34       | 123       | 157         | 2.8        |
|        | Zone 3 Subtotal  |         |                |         |          | 34       | 123       | 157         | 2.8        |
| 6      | Middle Harbr     | 516.00  | Employees      | 0.06    | 0.22     | 31       | 114       | 145         | 2.6        |
|        | Zone 6 Subtotal  |         |                |         |          | 31       | 114       | 145         | 2.6        |
| 7      | 7th St Harbr     | 613.00  | Employees      | 0.06    | 0.22     | 37       | 135       | 172         | 3.0        |
|        | Zone 7 Subtotal  |         |                |         |          | 37       | 135       | 172         | 3.0        |
| 8      | Outer Harbor     | 706.00  | Employees      | 0.06    | 0.21     | 42       | 148       | 190         | 3.4        |
|        | Zone 8 Subtotal  |         |                |         |          | 42       | 148       | 190         | 3.4        |
| 10     | New Park         | 1.00    | Total Trips    | 55.00   | 96.00    | 55       | 96        | 151         | 2.7        |
|        | Zone 10 Subtotal |         |                |         |          | 55       | 96        | 151         | 2.7        |
| 11     | New Harbor       | 1.00    | Trucks Inter   | 229.00  | 274.00   | 229      | 274       | 503         | 8.9        |
|        | Zone 11 Subtotal |         |                |         |          | 229      | 274       | 503         | 8.9        |
| 16     | Middle Harbr     | 1.00    | Trucks Inter   | 109.00  | 130.00   | 109      | 130       | 239         | 4.2        |
|        | Zone 16 Subtotal |         |                |         |          | 109      | 130       | 239         | 4.2        |
| 17     | 7th St Harbr     | 1.00    | Trucks Inter   | 129.00  | 155.00   | 129      | 155       | 284         | 5.0        |
|        | Zone 17 Subtotal |         |                |         |          | 129      | 155       | 284         | 5.0        |
| 18     | Outer Harbor     | 1.00    | Trucks Inter   | 148.00  | 178.00   | 148      | 178       | 326         | 5.8        |
|        | Zone 18 Subtotal |         |                |         |          | 148      | 178       | 326         | 5.8        |
| 21     | New Harbor       | 1.00    | Truck External | 407.00  | 488.00   | 407      | 488       | 895         | 15.8       |
|        | Zone 21 Subtotal |         |                |         |          | 407      | 488       | 895         | 15.8       |
| 23     | J.I.T.           | 1.00    | Truck External | 353.00  | 423.00   | 353      | 423       | 776         | 13.7       |
|        | Zone 23 Subtotal |         |                |         |          | 353      | 423       | 776         | 13.7       |
| 26     | Middle Harbr     | 1.00    | Truck External | 193.00  | 232.00   | 193      | 232       | 425         | 7.5        |
|        | Zone 26 Subtotal |         |                |         |          | 193      | 232       | 425         | 7.5        |
| 27     | 7th St Harbr     | 1.00    | Truck External | 229.00  | 275.00   | 229      | 275       | 504         | 8.9        |
|        | Zone 27 Subtotal |         |                |         |          | 229      | 275       | 504         | 8.9        |
| 28     | Outer Harbor     | 1.00    | Truck External | 264.00  | 316.00   | 264      | 316       | 580         | 10.3       |

FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

| Zone # | Subzone          | Amount | Units | Rate In | Rate Out | Trips In | Trips Out | Total Trips | % Of Total |
|--------|------------------|--------|-------|---------|----------|----------|-----------|-------------|------------|
|        | Zone 28 Subtotal |        |       |         |          | 264      | 316       | 580         | 10.3       |
|        | TOTAL            |        |       |         |          | 2325     | 3326      | 5651        | 100.0      |

Table J.7-10 (Continued)

D-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

Trip Distribution By St

Percent Of Trips Existing

| Zone | To Gates |     |     |     |      |      |      |      |       |
|------|----------|-----|-----|-----|------|------|------|------|-------|
|      | 3        | 4   | 5   | 11  | 12   | 13   | 14   | 15   | 16    |
| 1    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 3    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 6    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 7    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 8    | 0.0      | 0.0 | 0.0 | 5.0 | 17.0 | 23.0 | 11.0 | 30.0 | 14.0  |
| 10   | 0.0      | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 100.0 |
| 11   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 16   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 17   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 18   | 100.0    | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| 21   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 23   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 26   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 27   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |
| 28   | 0.0      | 0.0 | 0.0 | 2.0 | 20.0 | 9.0  | 20.0 | 32.0 | 17.0  |

D-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

Turning Movement Report  
PM Peak Hour

| Volume Type                                 | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total Volume |
|---|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------------|
|   | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right |              |
| #3 Maritime St./ Burma St.                  |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 5          | 590  | 0     | 0          | 109  | 0     | 0         | 0    | 50    | 0         | 0    | 0     | 754          |
| Added                                       | 0          | 355  | 0     | 0          | 210  | 90    | 158       | 0    | 0     | 0         | 0    | 0     | 813          |
| Total                                       | 5          | 945  | 0     | 0          | 319  | 90    | 158       | 0    | 50    | 0         | 0    | 0     | 1567         |
| #4 Maritime St./ 14th St.                   |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 414  | 28    | 105        | 132  | 0     | 0         | 0    | 0     | 92        | 0    | 290   | 1061         |
| Added                                       | 298        | 258  | 0     | 0          | 144  | 66    | 98        | 0    | 387   | 0         | 0    | 0     | 1250         |
| Total                                       | 298        | 672  | 28    | 105        | 276  | 66    | 98        | 0    | 387   | 92        | 0    | 290   | 2311         |
| #5 Maritime St./ 7th St. Extension          |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 36         | 0    | 0     | 0          | 0    | 75    | 223       | 0    | 74    | 0         | 0    | 0     | 408          |
| Added                                       | 768        | 327  | 0     | 0          | 304  | 226   | 229       | 0    | 823   | 0         | 0    | 0     | 2677         |
| Total                                       | 804        | 327  | 0     | 0          | 304  | 301   | 452       | 0    | 897   | 0         | 0    | 0     | 3085         |
| #6 7th St./ 7th St. Extension               |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 31         | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 31           |
| Added                                       | 0          | 0    | 0     | 674        | 0    | 453   | 606       | 423  | 0     | 0         | 281  | 489   | 2926         |
| Total                                       | 0          | 0    | 0     | 705        | 0    | 453   | 606       | 423  | 0     | 0         | 281  | 489   | 2957         |
| #7  |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 95         | 0    | 229   | 0          | 0    | 0     | 0         | 215  | 131   | 94        | 88   | 0     | 852          |
| Added                                       | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 633  | 0     | 0         | 416  | 0     | 1050         |
| Total                                       | 95         | 0    | 229   | 0          | 0    | 0     | 0         | 848  | 131   | 94        | 504  | 0     | 1902         |
| #8 Adeline St./ 3rd St.                     |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 36         | 0    | 122   | 43         | 0    | 15    | 30        | 14   | 13    | 89        | 39   | 78    | 479          |
| Added                                       | 0          | 979  | 0     | 0          | 640  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1620         |
| Total                                       | 36         | 979  | 122   | 43         | 640  | 15    | 30        | 14   | 13    | 89        | 39   | 78    | 2099         |
| #9 7th/Middle Harbor Rd                     |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 1     | 1            |
| Added                                       | 4          | 0    | 383   | 0          | 0    | 0     | 0         | 646  | 15    | 289       | 446  | 0     | 1782         |
| Total                                       | 4          | 0    | 383   | 0          | 0    | 0     | 0         | 646  | 15    | 289       | 446  | 1     | 1783         |
| #10 New Harbor/Mid Harbor Rd                |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0            |
| Added                                       | 383        | 0    | 618   | 0          | 0    | 0     | 0         | 15   | 289   | 412       | 4    | 0     | 1721         |
| Total                                       | 383        | 0    | 618   | 0          | 0    | 0     | 0         | 15   | 289   | 412       | 4    | 0     | 1721         |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps |            |      |       |            |      |       |           |      |       |           |      |       |              |
| Base  | 0          | 23   | 0     | 9          | 23   | 23    | 20        | 454  | 210   | 0         | 624  | 13    | 1399         |
| Added                                       | 439        | 0    | 74    | 0          | 0    | 0     | 0         | 0    | 249   | 51        | 0    | 0     | 813          |
| Total                                       | 439        | 23   | 74    | 9          | 23   | 23    | 20        | 454  | 459   | 51        | 624  | 13    | 2212         |

FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

| Volume | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total  |
|--------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------|
| Type   | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume |

## #13 Adeline St./ 5th St./ I-880 SB Ramp

|       |     |     |     |     |     |    |     |     |     |     |     |     |      |
|-------|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|------|
| Base  | 0   | 0   | 0   | 241 | 0   | 69 | 138 | 157 | 0   | 0   | 202 | 616 | 1423 |
| Added | 251 | 194 | 534 | 0   | 124 | 0  | 0   | 0   | 161 | 355 | 0   | 0   | 1620 |
| Total | 251 | 194 | 534 | 241 | 124 | 69 | 138 | 157 | 161 | 355 | 202 | 616 | 3043 |

## #14 Union St./ 5th St./ I-880 North Ramps

|       |   |     |     |   |     |    |    |    |    |     |    |    |      |
|-------|---|-----|-----|---|-----|----|----|----|----|-----|----|----|------|
| Base  | 0 | 194 | 281 | 0 | 144 | 30 | 31 | 97 | 18 | 32  | 31 | 34 | 892  |
| Added | 0 | 0   | 161 | 0 | 0   | 0  | 0  | 0  | 0  | 251 | 0  | 0  | 412  |
| Total | 0 | 194 | 442 | 0 | 144 | 30 | 31 | 97 | 18 | 283 | 31 | 34 | 1304 |

## #15 7th St./ I-880 NB Ramps / Frontage Rd.

|       |     |     |   |   |   |     |     |     |   |   |    |   |      |
|-------|-----|-----|---|---|---|-----|-----|-----|---|---|----|---|------|
| Base  | 0   | 197 | 3 | 2 | 0 | 205 | 0   | 108 | 0 | 0 | 53 | 1 | 569  |
| Added | 478 | 0   | 0 | 0 | 0 | 288 | 417 | 17  | 0 | 0 | 5  | 0 | 1204 |
| Total | 478 | 197 | 3 | 2 | 0 | 493 | 417 | 125 | 0 | 0 | 58 | 1 | 1773 |

## #16 7th St./ I-880 SB Ramps

|       |   |   |   |   |   |   |   |     |     |     |     |   |      |
|-------|---|---|---|---|---|---|---|-----|-----|-----|-----|---|------|
| Base  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0   | 7   | 378 | 0   | 0 | 385  |
| Added | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 434 | 663 | 0   | 770 | 0 | 1867 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 434 | 670 | 378 | 770 | 0 | 2252 |

## #17 14th St./ I-880 Frontage Rd.

|       |   |     |     |   |     |   |   |   |   |     |   |   |      |
|-------|---|-----|-----|---|-----|---|---|---|---|-----|---|---|------|
| Base  | 0 | 62  | 130 | 4 | 0   | 0 | 0 | 0 | 0 | 115 | 0 | 7 | 318  |
| Added | 0 | 417 | 0   | 0 | 288 | 0 | 0 | 0 | 0 | 0   | 0 | 0 | 705  |
| Total | 0 | 479 | 130 | 4 | 288 | 0 | 0 | 0 | 0 | 115 | 0 | 7 | 1023 |

## #18 W.Grand Ave./ I-880 Frontage Rd.

|       |    |     |     |     |     |   |    |     |   |     |     |     |      |
|-------|----|-----|-----|-----|-----|---|----|-----|---|-----|-----|-----|------|
| Base  | 75 | 72  | 0   | 759 | 0   | 6 | 86 | 277 | 3 | 0   | 456 | 330 | 2064 |
| Added | 0  | 183 | 234 | 0   | 128 | 0 | 0  | 74  | 0 | 159 | 51  | 0   | 830  |
| Total | 75 | 255 | 234 | 759 | 128 | 6 | 86 | 351 | 3 | 159 | 507 | 330 | 2894 |

## #134

|       |   |   |     |   |   |   |   |     |   |     |     |   |      |
|-------|---|---|-----|---|---|---|---|-----|---|-----|-----|---|------|
| Base  | 0 | 0 | 0   | 0 | 0 | 0 | 0 | 0   | 0 | 0   | 0   | 0 | 0    |
| Added | 0 | 0 | 615 | 0 | 0 | 0 | 0 | 546 | 0 | 737 | 387 | 0 | 2285 |
| Total | 0 | 0 | 615 | 0 | 0 | 0 | 0 | 546 | 0 | 737 | 387 | 0 | 2285 |

## #138

|       |   |      |   |   |      |     |     |   |   |   |   |   |      |
|-------|---|------|---|---|------|-----|-----|---|---|---|---|---|------|
| Base  | 0 | -168 | 0 | 0 | -123 | -24 | -20 | 0 | 0 | 0 | 0 | 0 | -335 |
| Added | 0 | 0    | 0 | 0 | 0    | 0   | 0   | 0 | 0 | 0 | 0 | 0 | 0    |
| Total | 0 | -168 | 0 | 0 | -123 | -24 | -20 | 0 | 0 | 0 | 0 | 0 | -335 |

## #158

|       |   |      |      |   |   |   |   |   |   |   |   |   |      |
|-------|---|------|------|---|---|---|---|---|---|---|---|---|------|
| Base  | 0 | -259 | -163 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -422 |
| Added | 0 | 331  | 155  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 486  |
| Total | 0 | 72   | -8   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 64   |

FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

| Volume | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total  |
|--------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------|
| Type   | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume |

## #159

|       |      |   |   |   |   |   |   |   |   |   |     |   |      |
|-------|------|---|---|---|---|---|---|---|---|---|-----|---|------|
| Base  | -259 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0   | 0 | -364 |
| Added | 331  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 95  | 0 | 426  |
| Total | 72   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -10 | 0 | 62   |

## #160

|       |   |   |   |   |   |   |   |   |   |   |      |      |   |
|-------|---|---|---|---|---|---|---|---|---|---|------|------|---|
| Base  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -105 | -259 | 0 |
| Added | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 95   | 331  | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -10  | 72   | 0 |

## #161

|       |   |   |   |   |      |   |   |   |      |   |   |   |      |
|-------|---|---|---|---|------|---|---|---|------|---|---|---|------|
| Base  | 0 | 0 | 0 | 0 | -105 | 0 | 0 | 0 | -150 | 0 | 0 | 0 | -255 |
| Added | 0 | 0 | 0 | 0 | 95   | 0 | 0 | 0 | 178  | 0 | 0 | 0 | 273  |
| Total | 0 | 0 | 0 | 0 | -10  | 0 | 0 | 0 | 28   | 0 | 0 | 0 | 18   |

## #165

|       |   |   |   |   |      |   |   |   |      |   |   |   |      |
|-------|---|---|---|---|------|---|---|---|------|---|---|---|------|
| Base  | 0 | 0 | 0 | 0 | -126 | 0 | 0 | 0 | -534 | 0 | 0 | 0 | -660 |
| Added | 0 | 0 | 0 | 0 | 161  | 0 | 0 | 0 | 663  | 0 | 0 | 0 | 823  |
| Total | 0 | 0 | 0 | 0 | 35   | 0 | 0 | 0 | 129  | 0 | 0 | 0 | 163  |

## #170

|       |   |      |      |   |   |   |   |   |   |   |   |   |      |
|-------|---|------|------|---|---|---|---|---|---|---|---|---|------|
| Base  | 0 | -205 | -391 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -596 |
| Added | 0 | 251  | 478  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 729  |
| Total | 0 | 46   | 87   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 133  |

## #177

|       |   |   |   |   |      |   |   |      |   |   |   |   |      |
|-------|---|---|---|---|------|---|---|------|---|---|---|---|------|
| Base  | 0 | 0 | 0 | 0 | -214 | 0 | 0 | -163 | 0 | 0 | 0 | 0 | -377 |
| Added | 0 | 0 | 0 | 0 | 265  | 0 | 0 | 155  | 0 | 0 | 0 | 0 | 420  |
| Total | 0 | 0 | 0 | 0 | 51   | 0 | 0 | -8   | 0 | 0 | 0 | 0 | 43   |

## #178

|       |   |      |   |   |   |   |      |     |   |   |   |   |      |
|-------|---|------|---|---|---|---|------|-----|---|---|---|---|------|
| Base  | 0 | -323 | 0 | 0 | 0 | 0 | -116 | -47 | 0 | 0 | 0 | 0 | -486 |
| Added | 0 | 387  | 0 | 0 | 0 | 0 | 88   | 67  | 0 | 0 | 0 | 0 | 542  |
| Total | 0 | 64   | 0 | 0 | 0 | 0 | -28  | 20  | 0 | 0 | 0 | 0 | 56   |

## #182

|       |   |      |   |   |   |      |   |   |   |   |   |   |      |
|-------|---|------|---|---|---|------|---|---|---|---|---|---|------|
| Base  | 0 | -439 | 0 | 0 | 0 | -297 | 0 | 0 | 0 | 0 | 0 | 0 | -736 |
| Added | 0 | 476  | 0 | 0 | 0 | 325  | 0 | 0 | 0 | 0 | 0 | 0 | 801  |
| Total | 0 | 37   | 0 | 0 | 0 | 28   | 0 | 0 | 0 | 0 | 0 | 0 | 65   |

## #201

|       |   |   |   |   |   |   |   |       |   |   |   |   |      |
|-------|---|---|---|---|---|---|---|-------|---|---|---|---|------|
| Base  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1043 | 0 | 0 | 0 | 0 | -104 |
| Added | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1197  | 0 | 0 | 0 | 0 | 1197 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 154   | 0 | 0 | 0 | 0 | 154  |



Table J.7-10 (Continued)

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FISCO/Port Vision 2000 EIS/EIR

Reduced Harbor Fill Alternative

PM Peak Hour

| Volume | Northbound |      |       | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total  |
|--------|------------|------|-------|------------|------|-------|-----------|------|-------|-----------|------|-------|--------|
| Type   | Left       | Thru | Right | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume |
| #204   |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base   | 0          | 0    | 0     | -375       | -668 | 0     | 0         | 0    | 0     | 0         | 0    | 0     | -1043  |
| Added  | 0          | 0    | 0     | 414        | 783  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 1197   |
| Total  | 0          | 0    | 0     | 39         | 115  | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 154    |
| #207   |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base   | 0          | -463 | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | -278  | -741   |
| Added  | 0          | 525  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 308   | 833    |
| Total  | 0          | 62   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 30    | 92     |
| #214   |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base   | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | -350      | -391 | 0     | -741   |
| Added  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 355       | 478  | 0     | 833    |
| Total  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 5         | 87   | 0     | 92     |
| #217   |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base   | 0          | 0    | 0     | 0          | -19  | 0     | 0         | -47  | 0     | 0         | 0    | 0     | -66    |
| Added  | 0          | 0    | 0     | 0          | 9    | 0     | 0         | 67   | 0     | 0         | 0    | 0     | 75     |
| Total  | 0          | 0    | 0     | 0          | -10  | 0     | 0         | 20   | 0     | 0         | 0    | 0     | 9      |
| #218   |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base   | 0          | -39  | 0     | 0          | 0    | 0     | -31       | -16  | 0     | 0         | 0    | 0     | -86    |
| Added  | 0          | 22   | 0     | 0          | 0    | 0     | 50        | 16   | 0     | 0         | 0    | 0     | 89     |
| Total  | 0          | -17  | 0     | 0          | 0    | 0     | 19        | 0    | 0     | 0         | 0    | 0     | 3      |
| #219   |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base   | 0          | -70  | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -5   | 0     | -75    |
| Added  | 0          | 73   | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 5    | 0     | 77     |
| Total  | 0          | 3    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -0   | 0     | 2      |
| #220   |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base   | 0          | 0    | 0     | 0          | -19  | -18   | 0         | 0    | 0     | 0         | -5   | 0     | -42    |
| Added  | 0          | 0    | 0     | 0          | 9    | 31    | 0         | 0    | 0     | 0         | 5    | 0     | 44     |
| Total  | 0          | 0    | 0     | 0          | -10  | 13    | 0         | 0    | 0     | 0         | -0   | 0     | 2      |
| #225   |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base   | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | -278 | -5    | -283   |
| Added  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 308  | 5     | 312    |
| Total  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 30   | -0    | 29     |
| #226   |            |      |       |            |      |       |           |      |       |           |      |       |        |
| Base   | 0          | 0    | 0     | -16        | 0    | 0     | 0         | -375 | 0     | 0         | 0    | 0     | -391   |
| Added  | 0          | 0    | 0     | 16         | 0    | 0     | 0         | 414  | 0     | 0         | 0    | 0     | 430    |
| Total  | 0          | 0    | 0     | 0          | 0    | 0     | 0         | 39   | 0     | 0         | 0    | 0     | 39     |

|                                 |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
|---------------------------------|------------|------|--------------------------|------------|------|-------|-----------|------|-------|-----------|------|-------|----------|--|
| D-PM.CMD                        |            |      | Tue Nov 5, 1996 10:50:38 |            |      |       |           |      |       |           |      |       | Page 3-5 |  |
| -----                           |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| FISCO/Port Vision 2000 EIS/EIR  |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| Reduced Harbor Fill Alternative |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| PM Peak Hour                    |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| -----                           |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| Volume                          | Northbound |      |                          | Southbound |      |       | Eastbound |      |       | Westbound |      |       | Total    |  |
| Type                            | Left       | Thru | Right                    | Left       | Thru | Right | Left      | Thru | Right | Left      | Thru | Right | Volume   |  |
|                                 |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| #244                            |            |      |                          |            |      |       |           |      |       |           |      |       |          |  |
| Base                            | 0          | 0    | 0                        | 0          | 0    | -302  | -226      | -44  | 0     | 0         | -37  | 0     | -609     |  |
| Added                           | 0          | 0    | 0                        | 0          | 0    | 0     | 0         | 0    | 0     | 0         | 0    | 0     | 0        |  |
| Total                           | 0          | 0    | 0                        | 0          | 0    | -302  | -226      | -44  | 0     | 0         | -37  | 0     | -609     |  |

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

Link Volume Report  
PM Peak Hour

| Volume Type                                 | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total Volume |
|---|---------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|--------------|
|   | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total |              |
| #3 Maritime St./ Burma St.                  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 595     | 159  | 754   | 119     | 540  | 699   | 50      | 5    | 55    | 0       | 0    | 0     | 1508         |
| Added                                       | 355     | 210  | 565   | 300     | 513  | 813   | 158     | 90   | 248   | 0       | 0    | 0     | 1625         |
| Total                                       | 950     | 369  | 1319  | 409     | 1103 | 1512  | 208     | 95   | 303   | 0       | 0    | 0     | 3133         |
| #4 Maritime St./ 14th St.                   |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 442     | 224  | 666   | 237     | 704  | 941   | 0       | 0    | 0     | 382     | 133  | 515   | 2122         |
| Added                                       | 556     | 530  | 1086  | 210     | 355  | 565   | 484     | 364  | 848   | 0       | 0    | 0     | 2499         |
| Total                                       | 998     | 754  | 1752  | 447     | 1059 | 1506  | 484     | 364  | 848   | 382     | 133  | 515   | 4621         |
| #5 Maritime St./ 7th St. Extension          |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 36      | 74   | 110   | 75      | 223  | 298   | 297     | 111  | 408   | 0       | 0    | 0     | 816          |
| Added                                       | 1094    | 1127 | 2221  | 530     | 556  | 1086  | 1052    | 994  | 2046  | 0       | 0    | 0     | 5353         |
| Total                                       | 1130    | 1201 | 2331  | 605     | 779  | 1384  | 1349    | 1105 | 2454  | 0       | 0    | 0     | 6169         |
| #6 7th St./ 7th St. Extension               |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 0       | 0    | 0     | 31      | 0    | 31    | 0       | 0    | 0     | 0       | 31   | 31    | 62           |
| Added                                       | 0       | 0    | 0     | 1127    | 1094 | 2221  | 1029    | 735  | 1763  | 770     | 1097 | 1867  | 5851         |
| Total                                       | 0       | 0    | 0     | 1158    | 1094 | 2252  | 1029    | 735  | 1763  | 770     | 1128 | 1898  | 5913         |
| #7  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 324     | 225  | 549   | 0       | 0    | 0     | 346     | 183  | 529   | 182     | 444  | 626   | 1704         |
| Added                                       | 0       | 0    | 0     | 0       | 0    | 0     | 633     | 416  | 1050  | 416     | 633  | 1050  | 2099         |
| Total                                       | 324     | 225  | 549   | 0       | 0    | 0     | 979     | 599  | 1579  | 598     | 1077 | 1676  | 3803         |
| #8 Adeline St./ 3rd St.                     |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 158     | 102  | 260   | 58      | 108  | 166   | 57      | 90   | 147   | 206     | 179  | 385   | 958          |
| Added                                       | 979     | 640  | 1620  | 640     | 979  | 1620  | 0       | 0    | 0     | 0       | 0    | 0     | 3239         |
| Total                                       | 1137    | 742  | 1880  | 698     | 1087 | 1786  | 57      | 90   | 147   | 206     | 179  | 385   | 4197         |
| #9 7th/Middle Harbor Rd                     |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 0       | 0    | 0     | 0       | 1    | 1     | 0       | 0    | 0     | 1       | 0    | 1     | 2            |
| Added                                       | 387     | 304  | 690   | 0       | 0    | 0     | 661     | 450  | 1111  | 735     | 1029 | 1763  | 3565         |
| Total                                       | 387     | 304  | 690   | 0       | 1    | 1     | 661     | 450  | 1111  | 736     | 1029 | 1764  | 3567         |
| #10 New Harbor/Mid Harbor Rd                |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0            |
| Added                                       | 1001    | 701  | 1702  | 0       | 0    | 0     | 304     | 387  | 690   | 416     | 633  | 1050  | 3442         |
| Total                                       | 1001    | 701  | 1702  | 0       | 0    | 0     | 304     | 387  | 690   | 416     | 633  | 1050  | 3442         |
| #12 Maritime St./ W.Grand Ave./ I-880 Ramps |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base  | 23      | 233  | 256   | 55      | 56   | 111   | 684     | 647  | 1331  | 637     | 463  | 1100  | 2798         |
| Added                                       | 513     | 300  | 813   | 0       | 0    | 0     | 249     | 439  | 687   | 51      | 74   | 125   | 1625         |
| Total                                       | 536     | 533  | 1069  | 55      | 56   | 111   | 933     | 1086 | 2018  | 688     | 537  | 1225  | 4423         |

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PM Peak Hour

| Volume Type                                | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total Volume |
|--|---------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|--------------|
|  | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total |              |
| #13 Adeline St./ 5th St./ I-880 SB Ramp    |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base                                       | 0       | 0    | 0     | 310     | 754  | 1064  | 295     | 271  | 566   | 818     | 398  | 1216  | 2846         |
| Added                                      | 979     | 640  | 1620  | 124     | 194  | 318   | 161     | 251  | 412   | 355     | 534  | 889   | 3239         |
| Total                                      | 979     | 640  | 1620  | 434     | 948  | 1382  | 456     | 522  | 978   | 1173    | 932  | 2105  | 6085         |
| #14 Union St./ 5th St./ I-880 North Ramps  |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base                                       | 475     | 194  | 669   | 174     | 259  | 433   | 146     | 61   | 207   | 97      | 378  | 475   | 1784         |
| Added                                      | 161     | 251  | 412   | 0       | 0    | 0     | 0       | 0    | 0     | 251     | 161  | 412   | 824          |
| Total                                      | 636     | 445  | 1081  | 174     | 259  | 433   | 146     | 61   | 207   | 348     | 539  | 887   | 2608         |
| #15 7th St./ I-880 NB Ramps / Frontage Rd. |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base                                       | 200     | 0    | 200   | 207     | 198  | 405   | 108     | 258  | 366   | 54      | 113  | 167   | 1138         |
| Added                                      | 478     | 0    | 478   | 288     | 417  | 705   | 434     | 770  | 1204  | 5       | 17   | 22    | 2408         |
| Total                                      | 678     | 0    | 678   | 495     | 615  | 1110  | 542     | 1028 | 1570  | 59      | 130  | 189   | 3546         |
| #16 7th St./ I-880 SB Ramps                |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base                                       | 0       | 385  | 385   | 0       | 0    | 0     | 7       | 0    | 7     | 378     | 0    | 378   | 770          |
| Added                                      | 0       | 663  | 663   | 0       | 0    | 0     | 1097    | 770  | 1867  | 770     | 434  | 1204  | 3734         |
| Total                                      | 0       | 1048 | 1048  | 0       | 0    | 0     | 1104    | 770  | 1874  | 1148    | 434  | 1582  | 4504         |
| #17 14th St./ I-880 Frontage Rd.           |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base                                       | 192     | 115  | 307   | 4       | 69   | 73    | 0       | 0    | 0     | 122     | 134  | 256   | 636          |
| Added                                      | 417     | 288  | 705   | 288     | 417  | 705   | 0       | 0    | 0     | 0       | 0    | 0     | 1409         |
| Total                                      | 609     | 403  | 1012  | 292     | 486  | 778   | 0       | 0    | 0     | 122     | 134  | 256   | 2045         |
| #18 W.Grand Ave./ I-880 Frontage Rd.       |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base                                       | 147     | 3    | 150   | 765     | 488  | 1253  | 366     | 537  | 903   | 786     | 1036 | 1822  | 4128         |
| Added                                      | 417     | 288  | 705   | 128     | 183  | 312   | 74      | 51   | 125   | 210     | 308  | 518   | 1660         |
| Total                                      | 564     | 291  | 855   | 893     | 671  | 1565  | 440     | 588  | 1028  | 996     | 1344 | 2340  | 5788         |
| #134                                       |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base                                       | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0            |
| Added                                      | 615     | 737  | 1352  | 0       | 0    | 0     | 546     | 387  | 933   | 1124    | 1161 | 2285  | 4570         |
| Total                                      | 615     | 737  | 1352  | 0       | 0    | 0     | 546     | 387  | 933   | 1124    | 1161 | 2285  | 4570         |
| #138                                       |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base                                       | -168    | -123 | -291  | -147    | -188 | -335  | -20     | -24  | -44   | 0       | 0    | 0     | -670         |
| Added                                      | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0            |
| Total                                      | -168    | -123 | -291  | -147    | -188 | -335  | -20     | -24  | -44   | 0       | 0    | 0     | -670         |
| #158                                       |         |      |       |         |      |       |         |      |       |         |      |       |              |
| Base                                       | -422    | 0    | -422  | 0       | -259 | -259  | 0       | 0    | 0     | 0       | -163 | -163  | -844         |
| Added                                      | 486     | 0    | 486   | 0       | 331  | 331   | 0       | 0    | 0     | 0       | 155  | 155   | 971          |
| Total                                      | 64      | 0    | 64    | 0       | 72   | 72    | 0       | 0    | 0     | 0       | -8   | -8    | 127          |

Table J.7-10 (Continued)

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|---|---------|------|-------|---------|------|-------|---------|------|-------|---------|-------|-------|---|--------|---------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|--------|
| FISCO/Port Vision 2000 EIS/EIR<br>Reduced Harbor Fill Alternative<br>PM Peak Hour |         |      |       |         |      |       |         |      |       |         |       |       | FISCO/Port Vision 2000 EIS/EIR<br>Reduced Harbor Fill Alternative<br>PM Peak Hour |        |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Volume  | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |       |       | Total   | Volume | NB Link |      |       | SB Link |      |       | EB Link |      |       | WB Link |      |       | Total  |
| Type  | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out   | Total | Volume  | Type   | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | In      | Out  | Total | Volume |
|   |         |      |       |         |      |       |         |      |       |         |       |       |   |        |         |      |       |         |      |       |         |      |       |         |      |       |        |
| #159  |         |      |       |         |      |       |         |      |       |         |       |       |   | #204   |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | -259    | 0    | -259  | 0       | 0    | 0     | 0       | -364 | -364  | -105    | 0     | -105  | -728  | Base   | 0       | -668 | -668  | -1043   | 0    | -1043 | 0       | 0    | 0     | 0       | -375 | -375  | -2086  |
| Added   | 331     | 0    | 331   | 0       | 0    | 0     | 0       | 426  | 426   | 95      | 0     | 95    | 852   | Added  | 0       | 783  | 783   | 1197    | 0    | 1197  | 0       | 0    | 0     | 0       | 414  | 414   | 2393   |
| Total   | 72      | 0    | 72    | 0       | 0    | 0     | 0       | 62   | 62    | -10     | 0     | -10   | 124   | Total  | 0       | 115  | 115   | 154     | 0    | 154   | 0       | 0    | 0     | 0       | 39   | 39    | 307    |
|   |         |      |       |         |      |       |         |      |       |         |       |       |   |        |         |      |       |         |      |       |         |      |       |         |      |       |        |
| #160  |         |      |       |         |      |       |         |      |       |         |       |       |   | #207   |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | 0       | -105 | -105  | 0       | 0    | 0     | 0       | -259 | -259  | -364    | 0     | -364  | -728  | Base   | -463    | 0    | -463  | 0       | -741 | -741  | 0       | 0    | 0     | -278    | 0    | -278  | -1482  |
| Added   | 0       | 95   | 95    | 0       | 0    | 0     | 0       | 331  | 331   | 426     | 0     | 426   | 852   | Added  | 525     | 0    | 525   | 0       | 833  | 833   | 0       | 0    | 0     | 308     | 0    | 308   | 1666   |
| Total   | 0       | -10  | -10   | 0       | 0    | 0     | 0       | 72   | 72    | 62      | 0     | 62    | 124   | Total  | 62      | 0    | 62    | 0       | 92   | 92    | 0       | 0    | 0     | 30      | 0    | 30    | 184    |
|   |         |      |       |         |      |       |         |      |       |         |       |       |   |        |         |      |       |         |      |       |         |      |       |         |      |       |        |
| #161  |         |      |       |         |      |       |         |      |       |         |       |       |   | #214   |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | 0       | -255 | -255  | -105    | 0    | -105  | -150    | 0    | -150  | 0       | 0     | 0     | -510  | Base   | 0       | -350 | -350  | 0       | 0    | 0     | 0       | -391 | -391  | -741    | 0    | -741  | -1482  |
| Added   | 0       | 273  | 273   | 95      | 0    | 95    | 178     | 0    | 178   | 0       | 0     | 0     | 547   | Added  | 0       | 355  | 355   | 0       | 0    | 0     | 0       | 478  | 478   | 833     | 0    | 833   | 1666   |
| Total   | 0       | 18   | 18    | -10     | 0    | -10   | 28      | 0    | 28    | 0       | 0     | 0     | 37  | Total  | 0       | 5    | 5     | 0       | 0    | 0     | 0       | 87   | 87    | 92      | 0    | 92    | 184    |
|   |         |      |       |         |      |       |         |      |       |         |       |       |   |        |         |      |       |         |      |       |         |      |       |         |      |       |        |
| #165  |         |      |       |         |      |       |         |      |       |         |       |       |   | #217   |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | 0       | -660 | -660  | -126    | 0    | -126  | -534    | 0    | -534  | 0       | 0     | 0     | -1320   | Base   | 0       | -19  | -19   | -19     | 0    | -19   | -47     | 0    | -47   | 0       | -47  | -47   | -132   |
| Added   | 0       | 823  | 823   | 161     | 0    | 161   | 663     | 0    | 663   | 0       | 0     | 0     | 1647  | Added  | 0       | 9    | 9     | 9       | 0    | 9     | 67      | 0    | 67    | 0       | 67   | 67    | 151    |
| Total   | 0       | 163  | 163   | 35      | 0    | 35    | 129     | 0    | 129   | 0       | 0     | 0     | 327   | Total  | 0       | -10  | -10   | -10     | 0    | -10   | 20      | 0    | 20    | 0       | 20   | 20    | 19     |
|   |         |      |       |         |      |       |         |      |       |         |       |       |   |        |         |      |       |         |      |       |         |      |       |         |      |       |        |
| #170  |         |      |       |         |      |       |         |      |       |         |       |       |   | #218   |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | -596    | 0    | -596  | 0       | -205 | -205  | 0       | 0    | 0     | 0       | -391  | -391  | -1192   | Base   | -39     | 0    | -39   | 0       | -70  | -70   | -47     | 0    | -47   | 0       | -16  | -16   | -172   |
| Added   | 729     | 0    | 729   | 0       | 251  | 251   | 0       | 0    | 0     | 0       | 478   | 478   | 1457  | Added  | 22      | 0    | 22    | 0       | 73   | 73    | 67      | 0    | 67    | 0       | 16   | 16    | 178    |
| Total   | 133     | 0    | 133   | 0       | 46   | 46    | 0       | 0    | 0     | 0       | 87    | 87    | 265   | Total  | -17     | 0    | -17   | 0       | 3    | 3     | 20      | 0    | 20    | 0       | 0    | 0     | 6      |
|   |         |      |       |         |      |       |         |      |       |         |       |       |   |        |         |      |       |         |      |       |         |      |       |         |      |       |        |
| #177  |         |      |       |         |      |       |         |      |       |         |       |       |   | #219   |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | 0       | -214 | -214  | -214    | 0    | -214  | -163    | 0    | -163  | 0       | -163  | -163  | -754  | Base   | -70     | 0    | -70   | 0       | -70  | -70   | 0       | -5   | -5    | -5      | 0    | -5    | -150   |
| Added   | 0       | 265  | 265   | 265     | 0    | 265   | 155     | 0    | 155   | 0       | 155   | 155   | 840   | Added  | 73      | 0    | 73    | 0       | 73   | 73    | 0       | 5    | 5     | 5       | 0    | 5     | 155    |
| Total   | 0       | 51   | 51    | 51      | 0    | 51    | -8      | 0    | -8    | 0       | -8    | -8    | 86  | Total  | 3       | 0    | 3     | 0       | 3    | 3     | 0       | -0   | -0    | -0      | 0    | -0    | 5      |
|   |         |      |       |         |      |       |         |      |       |         |       |       |   |        |         |      |       |         |      |       |         |      |       |         |      |       |        |
| #178  |         |      |       |         |      |       |         |      |       |         |       |       |   | #220   |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | -323    | 0    | -323  | 0       | -439 | -439  | -163    | 0    | -163  | 0       | -47   | -47   | -972  | Base   | 0       | -19  | -19   | -37     | 0    | -37   | 0       | -23  | -23   | -5      | 0    | -5    | -84    |
| Added   | 387     | 0    | 387   | 0       | 476  | 476   | 155     | 0    | 155   | 0       | 67    | 67    | 1085  | Added  | 0       | 9    | 9     | 39      | 0    | 39    | 0       | 35   | 35    | 5       | 0    | 5     | 88     |
| Total   | 64      | 0    | 64    | 0       | 37   | 37    | -8      | 0    | -8    | 0       | 20    | 20    | 113   | Total  | 0       | -10  | -10   | 2       | 0    | 2     | 0       | 12   | 12    | -0      | 0    | -0    | 4      |
|   |         |      |       |         |      |       |         |      |       |         |       |       |   |        |         |      |       |         |      |       |         |      |       |         |      |       |        |
| #182  |         |      |       |         |      |       |         |      |       |         |       |       |   | #225   |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | -439    | 0    | -439  | -297    | -439 | -736  | 0       | -297 | -297  | 0       | 0     | 0     | -1472   | Base   | 0       | 0    | 0     | 0       | -5   | -5    | 0       | -278 | -278  | -283    | 0    | -283  | -566   |
| Added   | 476     | 0    | 476   | 325     | 476  | 801   | 0       | 325  | 325   | 0       | 0     | 0     | 1601  | Added  | 0       | 0    | 0     | 0       | 5    | 5     | 0       | 308  | 308   | 312     | 0    | 312   | 624    |
| Total   | 37      | 0    | 37    | 28      | 37   | 65    | 0       | 28   | 28    | 0       | 0     | 0     | 129   | Total  | 0       | 0    | 0     | 0       | -0   | -0    | 0       | 30   | 30    | 29      | 0    | 29    | 58     |
|   |         |      |       |         |      |       |         |      |       |         |       |       |   |        |         |      |       |         |      |       |         |      |       |         |      |       |        |
| #201  |         |      |       |         |      |       |         |      |       |         |       |       |   | #226   |         |      |       |         |      |       |         |      |       |         |      |       |        |
| Base  | 0       | 0    | 0     | 0       | 0    | 0     | -1043   | 0    | -1043 | 0       | -1043 | -1043 | -208  | Base   | 0       | 0    | 0     | -16     | 0    | -16   | -375    | 0    | -375  | 0       | -391 | -391  | -782   |
| Added   | 0       | 0    | 0     | 0       | 0    | 0     | 1197    | 0    | 1197  | 0       | 1197  | 1197  | 2393  | Added  | 0       | 0    | 0     | 16      | 0    | 16    | 414     | 0    | 414   | 0       | 430  | 430   | 861    |
| Total   | 0       | 0    | 0     | 0       | 0    | 0     | 154     | 0    | 154   | 0       | 154   | 154   | 307   | Total  | 0       | 0    | 0     | 0       | 0    | 0     | 39      | 0    | 39    | 0       | 39   | 39    | 79     |

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

| Volume<br>Type | NB Link |     |       | SB Link |      |       | EB Link |      |       | WB Link |     |       | Total<br>Volume |
|----------------|---------|-----|-------|---------|------|-------|---------|------|-------|---------|-----|-------|-----------------|
|                | In      | Out | Total | In      | Out  | Total | In      | Out  | Total | In      | Out | Total |                 |
| #244           |         |     |       |         |      |       |         |      |       |         |     |       |                 |
| Base           | 0       | 0   | 0     | -302    | -226 | -528  | -270    | -339 | -609  | -37     | -44 | -81   | -1218           |
| Added          | 0       | 0   | 0     | 0       | 0    | 0     | 0       | 0    | 0     | 0       | 0   | 0     | 0               |
| Total          | 0       | 0   | 0     | -302    | -226 | -528  | -270    | -339 | -609  | -37     | -44 | -81   | -1218           |

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

| Impact Analysis Report<br>Level Of Service |    |                                 |      |             |         |        |             |         |              |        |     |  |
|--|----|---------------------------------|------|-------------|---------|--------|-------------|---------|--------------|--------|-----|--|
| Intersection                               |    |                                 | Base |             |         | Future |             |         | Change<br>in |        |     |  |
|  |    |                                 | LOS  | Del/<br>Veh | V/<br>C | LOS    | Del/<br>Veh | V/<br>C |              |        |     |  |
| #  | 3  | Maritime St./ Burma St.         | B    | 7.2         | 0.211   | B      | 9.4         | 0.318   | +            | 2.270  | D/V |  |
| #  | 4  | Maritime St./ 14th St.          | C    | 15.9        | 0.392   | C      | 19.8        | 0.760   | +            | 3.876  | D/V |  |
| #  | 5  | Maritime St./ 7th St. Extension | B    | 5.8         | 0.080   | B      | 14.0        | 0.695   | +            | 8.229  | D/V |  |
| #  | 6  | 7th St./ 7th St. Extension      | C    | 20.9        | 0.000   | B      | 14.7        | 0.670   | -            | 6.129  | D/V |  |
| #  | 8  | Adeline St./ 3rd St.            | C    | 20.4        | 0.084   | F      | 72.1        | 0.668   | +            | 51.744 | D/V |  |
| #  | 9  | 7th/Middle Harbor Rd            | C    | 15.8        | 0.000   | C      | 17.2        | 0.630   | +            | 1.404  | D/V |  |
| #  | 10 | New Harbor/Mid Harbor Rd        |      | 0.0         | 0.000   | C      | 16.3        | 0.673   | +            | 16.281 | D/V |  |
| #  | 12 | Maritime St./ W.Grand Ave./ I-  | B    | 12.4        | 0.237   | C      | 18.8        | 0.410   | +            | 6.398  | D/V |  |
| #  | 13 | Adeline St./ 5th St./ I-880 SB  | C    | 17.6        | 0.328   | D      | 30.8        | 0.510   | +            | 13.115 | D/V |  |
| #  | 14 | Union St./ 5th St./ I-880 Nort  | B    | 12.5        | 0.178   | C      | 16.8        | 0.227   | +            | 4.359  | D/V |  |
| #  | 15 | 7th St./ I-880 NB Ramps / Fron  | B    | 11.5        | 0.135   | C      | 18.7        | 0.426   | +            | 7.286  | D/V |  |
| #  | 16 | 7th St./ I-880 SB Ramps         | A    | 2.6         | 0.113   | B      | 5.6         | 0.550   | +            | 3.004  | D/V |  |
| #  | 17 | 14th St./ I-880 Frontage Rd.    | A    | 1.9         | 0.000   | C      | 2.3         | 0.000   | +            | 0.000  | V/C |  |
| #  | 18 | W.Grand Ave./ I-880 Frontage R  | C    | 21.1        | 0.505   | C      | 22.8        | 0.658   | +            | 1.696  | D/V |  |



Table J.7-10 (Continued)

|  |                          |      |      |                         |      |      |            |      |      |            |      |      |          |
|--|--------------------------|------|------|-------------------------|------|------|------------|------|------|------------|------|------|----------|
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| FISCO/Port Vision 2000 EIS/EIR                         |                          |      |      |                         |      |      |            |      |      |            |      |      |          |
| Reduced Harbor Fill Alternative                        |                          |      |      |                         |      |      |            |      |      |            |      |      |          |
| PM Peak Hour   |                          |      |      |                         |      |      |            |      |      |            |      |      |          |
| Level of Service Computation Report                    |                          |      |      |                         |      |      |            |      |      |            |      |      |          |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |      |      |                         |      |      |            |      |      |            |      |      |          |
| Intersection #3 Maritime St./ Burma St.                |                          |      |      |                         |      |      |            |      |      |            |      |      |          |
| Cycle (sec):   | 100                      |      |      | Critical Vol./Cap. (X): |      |      |            |      |      | 0.318      |      |      |          |
| Loss Time (sec):                                       | 8 (Y+R = 4 sec)          |      |      | Average Delay (sec/veh) |      |      |            |      |      | 9.4        |      |      |          |
| Optimal Cycle:   | 58                       |      |      | Level Of Service        |      |      |            |      |      | H          |      |      |          |
| Approach:  |                          |      |      |                         |      |      |            |      |      |            |      |      |          |
| Movement:  | North Bound              |      |      | South Bound             |      |      | East Bound |      |      | West Bound |      |      |          |
|  | L                        | T    | R    | L                       | T    | R    | L          | T    | R    | L          | T    | R    |          |
| Control:   | Protected                |      |      | Protected               |      |      | Protected  |      |      | Protected  |      |      |          |
| Rights:  | Include                  |      |      | Include                 |      |      | Include    |      |      | Include    |      |      |          |
| Min. Green:  | 10                       | 20   | 20   | 10                      | 20   | 20   | 10         | 20   | 10   | 0          | 0    | 0    |          |
| Lanes:   | 1                        | 0    | 1    | 1                       | 0    | 1    | 0          | 0    | 1    | 0          | 0    | 0    |          |
| Volume Module:   |                          |      |      |                         |      |      |            |      |      |            |      |      |          |
| Base Vol:  | 5                        | 590  | 0    | 0                       | 109  | 0    | 0          | 0    | 50   | 0          | 0    | 0    |          |
| Growth Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                    | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |
| Initial Bse:   | 5                        | 590  | 0    | 0                       | 109  | 0    | 0          | 0    | 50   | 0          | 0    | 0    |          |
| Added Vol:   | 0                        | 355  | 0    | 0                       | 210  | 90   | 158        | 0    | 0    | 0          | 0    | 0    |          |
| PasserByVol:   | 0                        | 0    | 0    | 0                       | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |          |
| Initial Fut:   | 5                        | 945  | 0    | 0                       | 319  | 90   | 158        | 0    | 50   | 0          | 0    | 0    |          |
| User Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                    | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |
| PHF Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                    | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |
| PHF Volume:  | 5                        | 945  | 0    | 0                       | 319  | 90   | 158        | 0    | 50   | 0          | 0    | 0    |          |
| Reduct Vol:  | 0                        | 0    | 0    | 0                       | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |          |
| Reduced Vol:   | 5                        | 945  | 0    | 0                       | 319  | 90   | 158        | 0    | 50   | 0          | 0    | 0    |          |
| PCE Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                    | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |
| MLF Adj:   | 1.00                     | 1.05 | 1.05 | 1.00                    | 1.05 | 1.05 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |
| Final Vol.:  | 5                        | 993  | 0    | 0                       | 335  | 95   | 158        | 0    | 50   | 0          | 0    | 0    |          |
| Saturation Flow Module:                                |                          |      |      |                         |      |      |            |      |      |            |      |      |          |
| Sat/Lane:  | 1900                     | 1900 | 1900 | 1900                    | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900 |          |
| Adjustment:  | 0.95                     | 1.00 | 1.00 | 1.00                    | 0.97 | 0.97 | 0.95       | 1.00 | 0.85 | 1.00       | 1.00 | 1.00 |          |
| Lanes:   | 1.00                     | 2.00 | 0.00 | 1.00                    | 1.56 | 0.44 | 1.00       | 0.00 | 1.00 | 0.00       | 0.00 | 0.00 |          |
| Final Sat.:  | 1805                     | 3800 | 0    | 1900                    | 2872 | 814  | 1805       | 0    | 1615 | 0          | 0    | 0    |          |
| Capacity Analysis Module:                              |                          |      |      |                         |      |      |            |      |      |            |      |      |          |
| Vol/Sat:   | 0.00                     | 0.26 | 0.00 | 0.00                    | 0.12 | 0.12 | 0.09       | 0.00 | 0.03 | 0.00       | 0.00 | 0.00 |          |
| Crit Moves:  | ****                     |      |      | ****                    |      |      | ****       |      |      | ****       |      |      |          |
| Green/Cycle:   | 0.24                     | 0.62 | 0.00 | 0.00                    | 0.48 | 0.48 | 0.20       | 0.00 | 0.20 | 0.00       | 0.00 | 0.00 |          |
| Volume/Cap:  | 0.01                     | 0.42 | 0.00 | 0.00                    | 0.24 | 0.24 | 0.44       | 0.00 | 0.15 | 0.00       | 0.00 | 0.00 |          |
| Level Of Service Module:                               |                          |      |      |                         |      |      |            |      |      |            |      |      |          |
| Delay/Veh:   | 18.7                     | 6.4  | 0.0  | 0.0                     | 9.9  | 9.9  | 23.2       | 0.0  | 21.4 | 0.0        | 0.0  | 0.0  |          |
| User DelAdj:   | 1.00                     | 1.00 | 1.00 | 1.00                    | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |
| AdjDel/Veh:  | 18.7                     | 6.4  | 0.0  | 0.0                     | 9.9  | 9.9  | 23.2       | 0.0  | 21.4 | 0.0        | 0.0  | 0.0  |          |
| Queue:   | 0                        | 14   | 0    | 0                       | 5    | 2    | 4          | 0    | 1    | 0          | 0    | 0    |          |

|   |                          |      |       |                          |      |       |            |      |        |            |      |       |          |
|---|--------------------------|------|-------|--------------------------|------|-------|------------|------|--------|------------|------|-------|----------|
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| FISCO/Port Vision 2000 EIS/EIR<br>Reduced Harbor Fill Alternative<br>PM Peak Hour             |                          |      |       |                          |      |       |            |      |        |            |      |       |          |
| Level Of Service Computation Report<br>1994 HCM Operations Method (Future Volume Alternative) |                          |      |       |                          |      |       |            |      |        |            |      |       |          |
| Intersection #4 Maritime St./ 14th St.  |                          |      |       |                          |      |       |            |      |        |            |      |       |          |
| Cycle (sec):  | 100                      |      |       | Critical Vol./Cap. (X):  |      |       |            |      |        | 0.760      |      |       |          |
| Loss Time (sec):  | 8 (Y+R = 4 sec)          |      |       | Average Delay (sec/veh): |      |       |            |      |        | 19.8       |      |       |          |
| Optimal Cycle:  | 58                       |      |       | Level Of Service:        |      |       |            |      |        | C          |      |       |          |
| Approach:   | North Bound              |      |       | South Bound              |      |       | East Bound |      |        | West Bound |      |       |          |
| Movement:   | L                        | T    | R     | L                        | T    | R     | L          | T    | R      | L          | T    | R     |          |
| Control:  | Protected                |      |       | Protected                |      |       | Permitted  |      |        | Permitted  |      |       |          |
| Rights:   | Include                  |      |       | Include                  |      |       | Ovl        |      |        | Include    |      |       |          |
| Min Green:  | 10                       | 20   | 20    | 10                       | 20   | 20    | 10         | 20   | 20     | 10         | 20   | 20    |          |
| Lanes:  | 1                        | 0    | 1 1 0 | 1                        | 0    | 1 1 0 | 0          | 0    | 1! 0 0 | 1          | 0    | 0 1 0 |          |
| Volume Module:  |                          |      |       |                          |      |       |            |      |        |            |      |       |          |
| Base Vol:   | 0                        | 414  | 28    | 105                      | 132  | 0     | 0          | 0    | 0      | 92         | 0    | 290   |          |
| Growth Adj:   | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00       | 1.00 | 1.00   | 1.00       | 1.00 | 1.00  |          |
| Initial Bse:  | 0                        | 414  | 28    | 105                      | 132  | 0     | 0          | 0    | 0      | 92         | 0    | 290   |          |
| Added Vol:  | 298                      | 258  | 0     | 0                        | 144  | 66    | 98         | 0    | 387    | 0          | 0    | 0     |          |
| PasserByVol:  | 0                        | 0    | 0     | 0                        | 0    | 0     | 0          | 0    | 0      | 0          | 0    | 0     |          |
| Initial Fut:  | 298                      | 672  | 28    | 105                      | 276  | 66    | 98         | 0    | 387    | 92         | 0    | 290   |          |
| User Adj:   | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00       | 1.00 | 1.00   | 1.00       | 1.00 | 1.00  |          |
| PHF Adj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00       | 1.00 | 1.00   | 1.00       | 1.00 | 1.00  |          |
| PHF Volume:   | 298                      | 672  | 28    | 105                      | 276  | 66    | 98         | 0    | 387    | 92         | 0    | 290   |          |
| Reduct Vol:   | 0                        | 0    | 0     | 0                        | 0    | 0     | 0          | 0    | 0      | 0          | 0    | 0     |          |
| Reduced Vol:  | 298                      | 672  | 28    | 105                      | 276  | 66    | 98         | 0    | 387    | 92         | 0    | 290   |          |
| PCE Adj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00       | 1.00 | 1.00   | 1.00       | 1.00 | 1.00  |          |
| MLF Adj:  | 1.00                     | 1.05 | 1.05  | 1.00                     | 1.05 | 1.05  | 1.00       | 1.00 | 1.00   | 1.00       | 1.00 | 1.00  |          |
| Final Vol.:   | 298                      | 705  | 29    | 105                      | 289  | 69    | 98         | 0    | 387    | 92         | 0    | 290   |          |
| Saturation Flow Module:   |                          |      |       |                          |      |       |            |      |        |            |      |       |          |
| Sat/Lane:   | 1900                     | 1900 | 1900  | 1900                     | 1900 | 1900  | 1900       | 1900 | 1900   | 1900       | 1900 | 1900  |          |
| Adjustment:   | 0.95                     | 0.99 | 0.99  | 0.95                     | 0.97 | 0.97  | 0.58       | 1.00 | 0.58   | 0.40       | 1.00 | 0.85  |          |
| Lanes:  | 1.00                     | 1.92 | 0.08  | 1.00                     | 1.61 | 0.39  | 0.20       | 0.00 | 0.80   | 1.00       | 0.00 | 1.00  |          |
| Final Sat.:   | 1805                     | 3613 | 149   | 1805                     | 2976 | 710   | 224        | 0    | 886    | 760        | 0    | 1615  |          |
| Capacity Analysis Module:   |                          |      |       |                          |      |       |            |      |        |            |      |       |          |
| Vol/Sat:  | 0.17                     | 0.20 | 0.20  | 0.06                     | 0.10 | 0.10  | 0.44       | 0.00 | 0.44   | 0.12       | 0.00 | 0.18  |          |
| Crit Moves:   | ****                     |      |       | ****                     |      |       | ****       |      |        |            |      |       |          |
| Green/Cycle:  | 0.20                     | 0.27 | 0.27  | 0.13                     | 0.20 | 0.20  | 0.52       | 0.00 | 0.72   | 0.52       | 0.00 | 0.52  |          |
| Volume/Cap:   | 0.84                     | 0.74 | 0.74  | 0.44                     | 0.49 | 0.49  | 0.84       | 0.00 | 0.61   | 0.23       | 0.00 | 0.34  |          |
| Level Of Service Module:  |                          |      |       |                          |      |       |            |      |        |            |      |       |          |
| Delay/Veh:  | 35.7                     | 23.7 | 23.7  | 26.7                     | 23.3 | 23.3  | 20.3       | 0.0  | 5.5    | 8.4        | 0.0  | 9.1   |          |
| User DelAdj:  | 1.00                     | 1.00 | 1.00  | 1.00                     | 1.00 | 1.00  | 1.00       | 1.00 | 1.00   | 1.00       | 1.00 | 1.00  |          |
| AdjDel/Veh:   | 35.7                     | 23.7 | 23.7  | 26.7                     | 23.3 | 23.3  | 20.3       | 0.0  | 5.5    | 8.4        | 0.0  | 9.1   |          |
| Queue:  | 9                        | 19   | 1     | 3                        | 7    | 2     | 3          | 0    | 6      | 1          | 0    | 5     |          |

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #5 Maritime St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.695  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 14.0  
Optimal Cycle: 48 Level Of Service: B

| Approach:   | North Bound |    |   | South Bound |    |    | East Bound |   |    | West Bound |   |   |
|-------------|-------------|----|---|-------------|----|----|------------|---|----|------------|---|---|
| Movement:   | L           | T  | R | L           | T  | R  | L          | T | R  | L          | T | R |
| Control:    | Protected   |    |   | Protected   |    |    | Protected  |   |    | Protected  |   |   |
| Rights:     | Include     |    |   | Ovl         |    |    | Ovl        |   |    | Include    |   |   |
| Min. Green: | 10          | 20 | 0 | 0           | 20 | 20 | 10         | 0 | 20 | 0          | 0 | 0 |
| Lanes:      | 2           | 0  | 2 | 0           | 0  | 2  | 0          | 0 | 0  | 0          | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 36   | 0    | 0    | 0    | 0    | 75   | 223  | 0    | 74   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 36   | 0    | 0    | 0    | 0    | 75   | 223  | 0    | 74   | 0    | 0    | 0    |
| Added Vol:   | 768  | 327  | 0    | 0    | 304  | 226  | 229  | 0    | 823  | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 804  | 327  | 0    | 0    | 304  | 301  | 452  | 0    | 897  | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 804  | 327  | 0    | 0    | 304  | 301  | 452  | 0    | 897  | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 804  | 327  | 0    | 0    | 304  | 301  | 452  | 0    | 897  | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.05 | 1.00 | 1.00 | 1.05 | 1.00 | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 828  | 343  | 0    | 0    | 319  | 301  | 466  | 0    | 897  | 0    | 0    | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 3610 | 3800 | 0    | 0    | 3800 | 1615 | 3610 | 0    | 1615 | 0    | 0    | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.23 | 0.09 | 0.00 | 0.00 | 0.08 | 0.19 | 0.13 | 0.00 | 0.56 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.30 | 0.50 | 0.00 | 0.00 | 0.20 | 0.62 | 0.42 | 0.00 | 0.72 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.77 | 0.18 | 0.00 | 0.00 | 0.42 | 0.30 | 0.31 | 0.00 | 0.77 | 0.00 | 0.00 | 0.00 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 23.2 | 9.0  | 0.0  | 0.0  | 22.8 | 5.7  | 12.4 | 0.0  | 8.0  | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 23.2 | 9.0  | 0.0  | 0.0  | 22.8 | 5.7  | 12.4 | 0.0  | 8.0  | 0.0  | 0.0  | 0.0  |
| Queue:       | 22   | 5    | 0    | 0    | 8    | 4    | 9    | 0    | 17   | 0    | 0    | 0    |

D-PM.CMD

Tue Nov 5, 1996 10:50:39

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #6 7th St./ 7th St. Extension

Cycle (sec): 100 Critical Vol./Cap. (X): 0.670  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 14.7  
Optimal Cycle: 58 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|---|---|-------------|---|----|------------|----|----|------------|----|----|
| Movement:   | L           | T | R | L           | T | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |   |   | Protected   |   |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |   |   | Include     |   |    | Include    |    |    | Ovl        |    |    |
| Min. Green: | 0           | 0 | 0 | 10          | 0 | 20 | 10         | 20 | 20 | 0          | 20 | 20 |
| Lanes:      | 0           | 0 | 0 | 2           | 0 | 0  | 2          | 0  | 2  | 0          | 0  | 1  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 31   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 31   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Added Vol:   | 0    | 0    | 0    | 674  | 0    | 453  | 606  | 423  | 0    | 0    | 281  | 489  |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 0    | 0    | 705  | 0    | 453  | 606  | 423  | 0    | 0    | 281  | 489  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 705  | 0    | 453  | 606  | 423  | 0    | 0    | 281  | 489  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 705  | 0    | 453  | 606  | 423  | 0    | 0    | 281  | 489  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.03 | 1.00 | 1.00 | 1.03 | 1.05 | 1.00 | 1.00 | 1.10 | 1.10 |
| Final Vol.:  | 0    | 0    | 0    | 726  | 0    | 453  | 624  | 444  | 0    | 0    | 310  | 537  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 | 1.00 | 0.91 | 0.91 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 1.00 | 2.00 | 2.00 | 0.00 | 0.00 | 1.10 | 1.90 |
| Final Sat.: | 0    | 0    | 0    | 3610 | 0    | 1615 | 3610 | 3800 | 0    | 0    | 1898 | 3289 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.20 | 0.00 | 0.28 | 0.17 | 0.12 | 0.00 | 0.00 | 0.16 | 0.16 |
| Crit Moves:  |      |      |      | **** |      | **** | **** |      |      | **** |      |      |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.42 | 0.00 | 0.42 | 0.26 | 0.50 | 0.00 | 0.00 | 0.24 | 0.66 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.48 | 0.00 | 0.67 | 0.67 | 0.23 | 0.00 | 0.00 | 0.67 | 0.25 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 13.9 | 0.0  | 17.0 | 22.8 | 9.1  | 0.0  | 0.0  | 23.1 | 4.4  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 13.9 | 0.0  | 17.0 | 22.8 | 9.1  | 0.0  | 0.0  | 23.1 | 4.4  |
| Queue:       | 0    | 0    | 0    | 15   | 0    | 11   | 16   | 7    | 0    | 0    | 8    | 6    |

Table J.7-10 (Continued)

|  |                          |      |                          |             |      |      |             |      |      |             |           |      |
|--|--------------------------|------|--------------------------|-------------|------|------|-------------|------|------|-------------|-----------|------|
| D-PM.CMD   | Tue Nov 5, 1996 10:50:39 |      |                          |             |      |      |             |      |      |             | Page 10-1 |      |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |      |                          |             |      |      |             |      |      |             |           |      |
| Reduced Harbor Fill Alternative                        |                          |      |                          |             |      |      |             |      |      |             |           |      |
| PM Peak Hour   |                          |      |                          |             |      |      |             |      |      |             |           |      |
| Level Of Service Computation Report                    |                          |      |                          |             |      |      |             |      |      |             |           |      |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |      |                          |             |      |      |             |      |      |             |           |      |
| Intersection #8 Adeline St./ 3rd St.                   |                          |      |                          |             |      |      |             |      |      |             |           |      |
| Cycle (sec):   | 100                      |      | Critical Vol./Cap. (X):  |             |      |      |             |      |      |             | 0.668     |      |
| Loss Time (sec):                                       | 12 (Y+R = 4 sec)         |      | Average Delay (sec/veh): |             |      |      |             |      |      |             | 72.1      |      |
| Optimal Cycle:   | 92                       |      | Level Of Service:        |             |      |      |             |      |      |             | F         |      |
| Approach:  | North Bound              |      |                          | South Bound |      |      | East Bound  |      |      | West Bound  |           |      |
| Movement:  | L                        | T    | R                        | L           | T    | R    | L           | T    | R    | L           | T         | R    |
| Control:   | Split Phase              |      |                          | Split Phase |      |      | Split Phase |      |      | Split Phase |           |      |
| Rights:  | Include                  |      |                          | Include     |      |      | Include     |      |      | Include     |           |      |
| Min. Green:  | 10                       | 20   | 20                       | 10          | 20   | 20   | 10          | 20   | 20   | 10          | 20        | 20   |
| Lanes:   | 0                        | 1    | 0                        | 1           | 0    | 0    | 1           | 0    | 1    | 0           | 1         | 0    |
| Volume Module:   |                          |      |                          |             |      |      |             |      |      |             |           |      |
| Base Vol:  | 36                       | 0    | 122                      | 43          | 0    | 15   | 30          | 14   | 13   | 89          | 39        | 78   |
| Growth Adj:  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |
| Initial Bse:   | 36                       | 0    | 122                      | 43          | 0    | 15   | 30          | 14   | 13   | 89          | 39        | 78   |
| Added Vol:   | 0                        | 979  | 0                        | 0           | 640  | 0    | 0           | 0    | 0    | 0           | 0         | 0    |
| PasserByVol:   | 0                        | 0    | 0                        | 0           | 0    | 0    | 0           | 0    | 0    | 0           | 0         | 0    |
| Initial Fut:   | 36                       | 979  | 122                      | 43          | 640  | 15   | 30          | 14   | 13   | 89          | 39        | 78   |
| User Adj:  | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |
| PHF Adj:   | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |
| PHF Volume:  | 36                       | 979  | 122                      | 43          | 640  | 15   | 30          | 14   | 13   | 89          | 39        | 78   |
| Reduct Vol:  | 0                        | 0    | 0                        | 0           | 0    | 0    | 0           | 0    | 0    | 0           | 0         | 0    |
| Reduced Vol:   | 36                       | 979  | 122                      | 43          | 640  | 15   | 30          | 14   | 13   | 89          | 39        | 78   |
| PCE Adj:   | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |
| MLF Adj:   | 1.05                     | 1.05 | 1.05                     | 1.05        | 1.05 | 1.05 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |
| Final Vol.:  | 38                       | 1028 | 128                      | 45          | 672  | 16   | 30          | 14   | 13   | 89          | 39        | 78   |
| Saturation Flow Module:                                |                          |      |                          |             |      |      |             |      |      |             |           |      |
| Sat/Lane:  | 1900                     | 1900 | 1900                     | 1900        | 1900 | 1900 | 1900        | 1900 | 1900 | 1900        | 1900      | 1900 |
| Adjustment:  | 0.98                     | 0.98 | 0.98                     | 1.00        | 1.00 | 1.00 | 0.95        | 0.93 | 0.93 | 0.95        | 0.90      | 0.90 |
| Lanes:   | 0.06                     | 1.73 | 0.21                     | 0.12        | 1.84 | 0.04 | 1.00        | 0.52 | 0.48 | 0.84        | 0.39      | 0.77 |
| Final Sat.:  | 119                      | 3206 | 399                      | 233         | 3484 | 83   | 1805        | 916  | 851  | 1512        | 663       | 1325 |
| Capacity Analysis Module:                              |                          |      |                          |             |      |      |             |      |      |             |           |      |
| Vol/Sat:   | 0.32                     | 0.32 | 0.32                     | 0.19        | 0.19 | 0.19 | 0.02        | 0.02 | 0.02 | 0.06        | 0.06      | 0.06 |
| Crit Moves:  | ****                     |      |                          | ****        |      |      | ****        |      |      | ****        |           |      |
| Green/Cycle:   | 0.28                     | 0.28 | 0.28                     | 0.20        | 0.20 | 0.20 | 0.20        | 0.20 | 0.20 | 0.20        | 0.20      | 0.20 |
| Volume/Cap:  | 1.15                     | 1.15 | 1.15                     | 0.96        | 0.96 | 0.96 | 0.08        | 0.08 | 0.08 | 0.29        | 0.29      | 0.29 |
| Level Of Service Module:                               |                          |      |                          |             |      |      |             |      |      |             |           |      |
| Delay/Veh:   | 100.7                    | 101  | 100.7                    | 43.5        | 43.5 | 43.5 | 21.0        | 21.0 | 21.0 | 22.0        | 22.0      | 22.0 |
| User DelAdj:   | 1.00                     | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00        | 1.00      | 1.00 |
| AdjDel/Veh:  | 100.7                    | 101  | 100.7                    | 43.5        | 43.5 | 43.5 | 21.0        | 21.0 | 21.0 | 22.0        | 22.0      | 22.0 |
| Queue:   | 4                        | 56   | 9                        | 3           | 23   | 1    | 1           | 0    | 0    | 2           | 1         | 2    |

|  |                          |      |      |                          |      |      |            |      |       |            |           |      |   |   |
|--|--------------------------|------|------|--------------------------|------|------|------------|------|-------|------------|-----------|------|---|---|
| D-PM.CMD   | Tue Nov 5, 1996 10:50:39 |      |      |                          |      |      |            |      |       |            | Page 11-1 |      |   |   |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |      |      |                          |      |      |            |      |       |            |           |      |   |   |
| Reduced Harbor Fill Alternative                        |                          |      |      |                          |      |      |            |      |       |            |           |      |   |   |
| PM Peak Hour   |                          |      |      |                          |      |      |            |      |       |            |           |      |   |   |
| Level Of Service Computation Report                    |                          |      |      |                          |      |      |            |      |       |            |           |      |   |   |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |      |      |                          |      |      |            |      |       |            |           |      |   |   |
| Intersection #9 7th/Middle Harbor Rd                   |                          |      |      |                          |      |      |            |      |       |            |           |      |   |   |
| Cycle (sec):   | 100                      |      |      | Critical Vol./Cap. (X):  |      |      |            |      | 0.630 |            |           |      |   |   |
| Loss Time (sec):                                       | 8 (Y+R = 4 sec)          |      |      | Average Delay (sec/veh): |      |      |            |      | 17.2  |            |           |      |   |   |
| Optimal Cycle:   | 58                       |      |      | Level Of Service:        |      |      |            |      | C     |            |           |      |   |   |
| Approach:  | North Bound              |      |      | South Bound              |      |      | East Bound |      |       | West Bound |           |      |   |   |
| Movement:  | L                        | T    | R    | L                        | T    | R    | L          | T    | R     | L          | T         | R    |   |   |
| Control:   | Protected                |      |      | Protected                |      |      | Protected  |      |       | Protected  |           |      |   |   |
| Rights:  | Include                  |      |      | Include                  |      |      | Include    |      |       | Include    |           |      |   |   |
| Min. Green:  | 10                       | 0    | 20   | 0                        | 0    | 0    | 0          | 20   | 20    | 10         | 20        | 0    |   |   |
| Lanes:   | 1                        | 0    | 0    | 0                        | 1    | 0    | 0          | 0    | 0     | 1          | 0         | 1    | 1 | 0 |
| Volume Module:   |                          |      |      |                          |      |      |            |      |       |            |           |      |   |   |
| Base Vol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0     | 0          | 0         | 1    |   |   |
| Growth Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |   |   |
| Initial Bse:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0     | 0          | 0         | 1    |   |   |
| Added Vol:   | 4                        | 0    | 383  | 0                        | 0    | 0    | 0          | 646  | 15    | 289        | 446       | 0    |   |   |
| PasserByVol:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0     | 0          | 0         | 0    |   |   |
| Initial Fut:   | 4                        | 0    | 383  | 0                        | 0    | 0    | 0          | 646  | 15    | 289        | 446       | 1    |   |   |
| User Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |   |   |
| PHF Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |   |   |
| PHF Volume:  | 4                        | 0    | 383  | 0                        | 0    | 0    | 0          | 646  | 15    | 289        | 446       | 1    |   |   |
| Reduct Vol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0     | 0          | 0         | 0    |   |   |
| Reduced Vol:   | 4                        | 0    | 383  | 0                        | 0    | 0    | 0          | 646  | 15    | 289        | 446       | 1    |   |   |
| PCE Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |   |   |
| MLF Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.05 | 1.05  | 1.00       | 1.05      | 1.05 |   |   |
| Final Vol.:  | 4                        | 0    | 383  | 0                        | 0    | 0    | 0          | 678  | 16    | 289        | 468       | 1    |   |   |
| Saturation Flow Module:                                |                          |      |      |                          |      |      |            |      |       |            |           |      |   |   |
| Sat/Lane:  | 1900                     | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900       | 1900 | 1900  | 1900       | 1900      | 1900 |   |   |
| Adjustment:  | 0.95                     | 1.00 | 0.85 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 0.95       | 1.00      | 1.00 |   |   |
| Lanes:   | 1.00                     | 0.00 | 1.00 | 0.00                     | 0.00 | 0.00 | 0.00       | 1.95 | 0.05  | 1.00       | 1.99      | 0.01 |   |   |
| Final Sat.:  | 1805                     | 0    | 1615 | 0                        | 0    | 0    | 0          | 3712 | 88    | 1805       | 3792      | 8    |   |   |
| Capacity Analysis Module:                              |                          |      |      |                          |      |      |            |      |       |            |           |      |   |   |
| Vol/Sat:   | 0.00                     | 0.00 | 0.24 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.18 | 0.18  | 0.16       | 0.12      | 0.12 |   |   |
| Crit Moves:  | ****                     |      |      | ****                     |      |      | ****       |      |       | ****       |           |      |   |   |
| Green/Cycle:   | 0.38                     | 0.00 | 0.38 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.29 | 0.29  | 0.25       | 0.54      | 0.54 |   |   |
| Volume/Cap:  | 0.01                     | 0.00 | 0.63 | 0.00                     | 0.00 | 0.00 | 0.00       | 0.63 | 0.63  | 0.63       | 0.23      | 0.23 |   |   |
| Level Of Service Module:                               |                          |      |      |                          |      |      |            |      |       |            |           |      |   |   |
| Delay/Veh:   | 12.6                     | 0.0  | 18.0 | 0.0                      | 0.0  | 0.0  | 0.0        | 20.8 | 20.8  | 23.4       | 7.7       | 7.7  |   |   |
| User DelAdj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00      | 1.00 |   |   |
| AdjDel/Veh:  | 12.6                     | 0.0  | 18.0 | 0.0                      | 0.0  | 0.0  | 0.0        | 20.8 | 20.8  | 23.4       | 7.7       | 7.7  |   |   |
| Queue:   | 0                        | 0    | 9    | 0                        | 0    | 0    | 0          | 17   | 1     | 7          | 7         | 0    |   |   |



FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #10 New Harbor/Mid Harbor Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.673  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 16.3  
Optimal Cycle: 48 Level Of Service: C

| Approach:   | North Bound |   |    |   | South Bound |   |   |   | East Bound |    |    |   | West Bound |    |   |  |
|-------------|-------------|---|----|---|-------------|---|---|---|------------|----|----|---|------------|----|---|--|
| Movement:   | L           | T | R  |   | L           | T | R |   | L          | T  | R  |   | L          | T  | R |  |
| Control:    | Protected   |   |    |   | Protected   |   |   |   | Protected  |    |    |   | Protected  |    |   |  |
| Rights:     | Ovl         |   |    |   | Include     |   |   |   | Include    |    |    |   | Include    |    |   |  |
| Min. Green: | 10          | 0 | 20 |   | 0           | 0 | 0 |   | 0          | 20 | 20 |   | 10         | 20 | 0 |  |
| Lanes:      | 1           | 0 | 0  | 1 | 0           | 0 | 0 | 0 | 0          | 0  | 1  | 1 | 0          | 1  | 0 |  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Added Vol:   | 383  | 0    | 618  | 0    | 0    | 0    | 0    | 0    | 15   | 289  | 412  | 4    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 383  | 0    | 618  | 0    | 0    | 0    | 0    | 0    | 15   | 289  | 412  | 4    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 383  | 0    | 618  | 0    | 0    | 0    | 0    | 0    | 15   | 289  | 412  | 4    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 383  | 0    | 618  | 0    | 0    | 0    | 0    | 0    | 15   | 289  | 412  | 4    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 383  | 0    | 618  | 0    | 0    | 0    | 0    | 0    | 15   | 289  | 412  | 4    | 0    | 0    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 2.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 1805 | 0    | 1615 | 0    | 0    | 0    | 0    | 0    | 1900 | 1615 | 1805 | 3800 | 0    | 0    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.21 | 0.00 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.18 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crit Moves:  | **** |      |      |      |      |      |      |      | **** | **** |      |      |      |      |
| Green/Cycle: | 0.32 | 0.00 | 0.65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.27 | 0.27 | 0.34 | 0.60 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:  | 0.67 | 0.00 | 0.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.67 | 0.67 | 0.00 | 0.00 | 0.00 | 0.00 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 21.4 | 0.0  | 6.9  | 0.0  | 0.0  | 0.0  | 0.0  | 17.6 | 23.9 | 20.3 | 5.0  | 0.0  | 0.0  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 21.4 | 0.0  | 6.9  | 0.0  | 0.0  | 0.0  | 0.0  | 17.6 | 23.9 | 20.3 | 5.0  | 0.0  | 0.0  | 0.0  |
| Queue:       | 10   | 0    | 10   | 0    | 0    | 0    | 0    | 0    | 8    | 10   | 0    | 0    | 0    | 0    |

FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #12 Maritime St./ W.Grand Ave./ I-880 Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.410  
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 18.8  
Optimal Cycle: 70 Level Of Service: C

| Approach:   | North Bound |    |    |   | South Bound |    |    |   | East Bound |    |    |   | West Bound |    |    |  |
|-------------|-------------|----|----|---|-------------|----|----|---|------------|----|----|---|------------|----|----|--|
| Movement:   | L           | T  | R  |   | L           | T  | R  |   | L          | T  | R  |   | L          | T  | R  |  |
| Control:    | Protected   |    |    |   | Protected   |    |    |   | Protected  |    |    |   | Protected  |    |    |  |
| Rights:     | Include     |    |    |   | Include     |    |    |   | Include    |    |    |   | Include    |    |    |  |
| Min. Green: | 10          | 20 | 20 |   | 10          | 20 | 20 |   | 10         | 20 | 20 |   | 10         | 20 | 20 |  |
| Lanes:      | 2           | 0  | 0  | 1 | 0           | 1  | 0  | 0 | 1          | 0  | 1  | 1 | 1          | 0  | 1  |  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 23   | 0    | 9    | 23   | 23   | 20   | 454  | 210  | 0    | 624  | 13   | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 23   | 0    | 9    | 23   | 23   | 20   | 454  | 210  | 0    | 624  | 13   | 0    | 0    |
| Added Vol:   | 439  | 0    | 74   | 0    | 0    | 0    | 0    | 0    | 249  | 51   | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 439  | 23   | 74   | 9    | 23   | 23   | 20   | 454  | 459  | 51   | 624  | 13   | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 439  | 23   | 74   | 9    | 23   | 23   | 20   | 454  | 459  | 51   | 624  | 13   | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 439  | 23   | 74   | 9    | 23   | 23   | 20   | 454  | 459  | 51   | 624  | 13   | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.10 | 1.10 | 1.00 | 1.05 | 1.05 | 1.00 | 1.00 |
| Final Vol.:  | 452  | 23   | 74   | 9    | 23   | 23   | 20   | 499  | 505  | 51   | 655  | 14   | 0    | 0    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 0.89 | 0.89 | 0.95 | 0.93 | 0.93 | 0.95 | 0.93 | 0.93 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 0.24 | 0.76 | 1.00 | 0.50 | 0.50 | 1.00 | 1.49 | 1.51 | 1.00 | 1.96 | 0.04 | 0.04 | 0.04 |
| Final Sat.: | 3610 | 401  | 1290 | 1805 | 884  | 884  | 1805 | 2635 | 2666 | 1805 | 3720 | 80   | 0    | 0    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.13 | 0.06 | 0.06 | 0.00 | 0.03 | 0.03 | 0.01 | 0.19 | 0.19 | 0.03 | 0.18 | 0.18 | 0.18 | 0.18 |
| Crit Moves:  | **** |      |      |      | **** | **** | **** | **** | **** | **** |      |      |      |      |
| Green/Cycle: | 0.24 | 0.29 | 0.29 | 0.15 | 0.20 | 0.20 | 0.15 | 0.36 | 0.36 | 0.10 | 0.31 | 0.31 | 0.31 | 0.31 |
| Volume/Cap:  | 0.52 | 0.20 | 0.20 | 0.03 | 0.13 | 0.13 | 0.07 | 0.52 | 0.52 | 0.28 | 0.57 | 0.57 | 0.57 | 0.57 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 21.9 | 17.2 | 17.2 | 23.7 | 21.2 | 21.2 | 23.4 | 16.5 | 16.5 | 27.2 | 19.3 | 19.3 | 19.3 | 19.3 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 21.9 | 17.2 | 17.2 | 23.7 | 21.2 | 21.2 | 23.4 | 16.5 | 16.5 | 27.2 | 19.3 | 19.3 | 19.3 | 19.3 |
| Queue:       | 11   | 0    | 2    | 0    | 1    | 1    | 0    | 11   | 11   | 1    | 16   | 0    | 0    | 0    |





FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #15 7th St./ I-880 NB Ramps / Frontage Rd.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.426  
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): 18.7  
Optimal Cycle: 70 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |    |    | Protected   |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Ovl         |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 0          | 20 | 20 |
| Lanes:      | 2           | 0  | 0  | 1           | 0  | 0  | 2          | 1  | 0  | 2          | 0  | 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 197  | 3    | 2    | 0    | 205  | 0    | 108  | 0    | 0    | 53   | 1    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 197  | 3    | 2    | 0    | 205  | 0    | 108  | 0    | 0    | 53   | 1    |
| Added Vol:   | 478  | 0    | 0    | 0    | 0    | 288  | 417  | 17   | 0    | 0    | 5    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 478  | 197  | 3    | 2    | 0    | 493  | 417  | 125  | 0    | 0    | 58   | 1    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 478  | 197  | 3    | 2    | 0    | 493  | 417  | 125  | 0    | 0    | 58   | 1    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 478  | 197  | 3    | 2    | 0    | 493  | 417  | 125  | 0    | 0    | 58   | 1    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 | 1.13 | 1.00 | 1.05 | 1.00 | 1.00 | 1.05 | 1.05 |
| Final Vol.:  | 492  | 197  | 3    | 2    | 0    | 557  | 417  | 131  | 0    | 0    | 61   | 1    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 2.00 | 0.98 | 0.02 | 1.00 | 0.00 | 2.00 | 1.00 | 2.00 | 0.00 | 0.00 | 1.97 | 0.03 |
| Final Sat.: | 3610 | 1872 | 29   | 1805 | 0    | 3230 | 1805 | 3800 | 0    | 0    | 3739 | 61   |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.14 | 0.11 | 0.11 | 0.00 | 0.00 | 0.17 | 0.23 | 0.03 | 0.00 | 0.00 | 0.02 | 0.02 |
| Crit Moves:  | **** |      |      | **** |      | **** |      |      |      |      | **** |      |
| Green/Cycle: | 0.19 | 0.26 | 0.26 | 0.13 | 0.00 | 0.51 | 0.31 | 0.51 | 0.00 | 0.00 | 0.20 | 0.20 |
| Volume/Cap:  | 0.73 | 0.41 | 0.41 | 0.01 | 0.00 | 0.34 | 0.73 | 0.07 | 0.00 | 0.00 | 0.08 | 0.08 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 27.7 | 20.3 | 20.3 | 24.6 | 0.0  | 9.2  | 23.1 | 7.9  | 0.0  | 0.0  | 21.0 | 21.0 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 27.7 | 20.3 | 20.3 | 24.6 | 0.0  | 9.2  | 23.1 | 7.9  | 0.0  | 0.0  | 21.0 | 21.0 |
| Queue:       | 14   | 5    | 0    | 0    | 0    | 9    | 11   | 2    | 0    | 0    | 1    | 0    |

FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative  
PM Peak Hour

## Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #16 7th St./ I-880 SB Ramps

Cycle (sec): 100 Critical Vol./Cap. (X): 0.550  
Loss Time (sec): 5 (Y+R = 4 sec) Average Delay (sec/veh): 5.6  
Optimal Cycle: 35 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |    |    | West Bound |    |    |
|-------------|-------------|---|---|-------------|---|---|------------|----|----|------------|----|----|
| Movement:   | L           | T | R | L           | T | R | L          | T  | R  | L          | T  | R  |
| Control:    | Protected   |   |   | Protected   |   |   | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |   |   | Include     |   |   | Include    |    |    | Include    |    |    |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0  | 2  | 0          | 1  | 2  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 7    | 378  | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 7    | 378  | 0    | 0    |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 434  | 663  | 0    | 770  | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 434  | 670  | 378  | 770  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 434  | 670  | 378  | 770  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 434  | 670  | 378  | 770  | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 | 1.03 | 1.05 |
| Final Vol.:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 456  | 670  | 389  | 808  | 0    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.95 | 1.00 | 1.00 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 1.00 | 2.00 | 2.00 | 0.00 |
| Final Sat.: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 3800 | 1615 | 3610 | 3800 | 0    |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.12 | 0.41 | 0.11 | 0.21 | 0.00 |
| Crit Moves:  |      |      |      |      |      |      |      |      | **** | **** |      |      |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.75 | 0.75 | 0.20 | 0.95 | 0.00 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.55 | 0.55 | 0.22 | 0.00 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 2.2  | 3.8  | 24.1 | 0.1  | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 2.2  | 3.8  | 24.1 | 0.1  | 0.0  |
| Queue:       | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 4    | 8    | 10   | 1    | 0    |

Table J.7-10 (Continued)

|  |                          |  |  |  |  |  |  |  |  |  |           |  |
|--|--------------------------|--|--|--|--|--|--|--|--|--|-----------|--|
| D-PM.CMD   | Tue Nov 5, 1996 10:50:39 |  |  |  |  |  |  |  |  |  | Page 18-1 |  |
| FISCO/Port Vision 2000 EIS/EIR   |                          |  |  |  |  |  |  |  |  |  |           |  |
| Reduced Harbor Fill Alternative  |                          |  |  |  |  |  |  |  |  |  |           |  |
| PM Peak Hour   |                          |  |  |  |  |  |  |  |  |  |           |  |
| Level of Service Computation Report  |                          |  |  |  |  |  |  |  |  |  |           |  |
| 1994 HCM Unsignalized Method (Future Volume Alternative)                     |                          |  |  |  |  |  |  |  |  |  |           |  |
| Intersection #17 14th St./ I-880 Frontage Rd.                                |                          |  |  |  |  |  |  |  |  |  |           |  |
| Average Delay (sec/veh): 2.3 Worst Case Level Of Service: C                  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Approach: North Bound South Bound East Bound West Bound                      |                          |  |  |  |  |  |  |  |  |  |           |  |
| Movement: L - T - R L - T - R L - T - R L - T - R                            |                          |  |  |  |  |  |  |  |  |  |           |  |
| Control: Uncontrolled Uncontrolled Stop Sign Stop Sign                       |                          |  |  |  |  |  |  |  |  |  |           |  |
| Rights: Include Include Include Include                                      |                          |  |  |  |  |  |  |  |  |  |           |  |
| Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 1 0 0 0 1                                 |                          |  |  |  |  |  |  |  |  |  |           |  |
| Volume Module:   |                          |  |  |  |  |  |  |  |  |  |           |  |
| Base Vol: 0 62 130 4 0 0 0 0 0 0 115 0 7                                     |                          |  |  |  |  |  |  |  |  |  |           |  |
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00      |                          |  |  |  |  |  |  |  |  |  |           |  |
| Initial Bse: 0 62 130 4 0 0 0 0 0 0 115 0 7                                  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Added Vol: 0 417 0 0 288 0 0 0 0 0 0 0 0                                     |                          |  |  |  |  |  |  |  |  |  |           |  |
| PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0                                       |                          |  |  |  |  |  |  |  |  |  |           |  |
| Initial Fut: 0 479 130 4 288 0 0 0 0 0 115 0 7                               |                          |  |  |  |  |  |  |  |  |  |           |  |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00        |                          |  |  |  |  |  |  |  |  |  |           |  |
| PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00         |                          |  |  |  |  |  |  |  |  |  |           |  |
| PHF Volume: 0 479 130 4 288 0 0 0 0 0 115 0 7                                |                          |  |  |  |  |  |  |  |  |  |           |  |
| Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Final Vol.: 0 479 130 4 288 0 0 0 0 0 115 0 7                                |                          |  |  |  |  |  |  |  |  |  |           |  |
| Adjusted Volume Module:  |                          |  |  |  |  |  |  |  |  |  |           |  |
| Grade: 0% 0% 0% 0%   |                          |  |  |  |  |  |  |  |  |  |           |  |
| % Cycle/Cars: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx                        |                          |  |  |  |  |  |  |  |  |  |           |  |
| % Truck/Comb: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx                        |                          |  |  |  |  |  |  |  |  |  |           |  |
| PCE Adj: 1.10 1.00 1.00 1.10 1.00 1.00 1.10 1.10 1.10 1.10 1.10 1.10         |                          |  |  |  |  |  |  |  |  |  |           |  |
| Cycl/Car PCE: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx                        |                          |  |  |  |  |  |  |  |  |  |           |  |
| Trck/Cmb PCE: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx                        |                          |  |  |  |  |  |  |  |  |  |           |  |
| Adj Vol.: 0 479 130 4 288 0 0 0 0 127 0 8                                    |                          |  |  |  |  |  |  |  |  |  |           |  |
| Critical Gap Module:   |                          |  |  |  |  |  |  |  |  |  |           |  |
| MoveUp Time:xxxxx xxxx xxxxx 2.1 xxxx xxxxx xxxxx xxxx xxxxx 3.4 xxxx 2.6    |                          |  |  |  |  |  |  |  |  |  |           |  |
| Critical Gp:xxxxx xxxx xxxxx 5.5 xxxx xxxxx xxxxx xxxx xxxxx 7.0 xxxx 5.5    |                          |  |  |  |  |  |  |  |  |  |           |  |
| Capacity Module:   |                          |  |  |  |  |  |  |  |  |  |           |  |
| Cnflct Vol: xxxx xxxx xxxxx 609 xxxx xxxxx xxxx xxxx xxxxx 836 xxxx 305      |                          |  |  |  |  |  |  |  |  |  |           |  |
| Potent Cap.: xxxx xxxx xxxxx 807 xxxx xxxxx xxxx xxxx xxxxx 309 xxxx 971     |                          |  |  |  |  |  |  |  |  |  |           |  |
| Adj Cap: xxxx xxxx xxxxx 1.00 xxxx xxxxx xxxx xxxx xxxxx 0.99 xxxx 1.00      |                          |  |  |  |  |  |  |  |  |  |           |  |
| Move Cap.: xxxx xxxx xxxxx 807 xxxx xxxxx xxxx xxxx xxxxx 308 xxxx 971       |                          |  |  |  |  |  |  |  |  |  |           |  |
| Level Of Service Module:   |                          |  |  |  |  |  |  |  |  |  |           |  |
| Stopped Del:xxxxx xxxx xxxxx 4.5 xxxx xxxxx xxxxx xxxx xxxxx 18.6 xxxx 3.7   |                          |  |  |  |  |  |  |  |  |  |           |  |
| LOS by Move: * * * A * * * C * A   |                          |  |  |  |  |  |  |  |  |  |           |  |
| Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT            |                          |  |  |  |  |  |  |  |  |  |           |  |
| Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx |                          |  |  |  |  |  |  |  |  |  |           |  |
| Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxxx   |                          |  |  |  |  |  |  |  |  |  |           |  |
| Shared LOS: * * * * * * * * * *  |                          |  |  |  |  |  |  |  |  |  |           |  |
| ApproachDel: 0.0 0.1 0.0 17.8  |                          |  |  |  |  |  |  |  |  |  |           |  |

D-PM.CMD

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FISCO/Port Vision 2000 EIS/EIR

Reduced Harbor Fill Alternative

PM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #18 W.Grand Ave./ I-880 Frontage Rd.

Cycle (sec): 100

Critical Vol./Cap. (X): 0.658

Loss Time (sec): 11 (Y+R = 4 sec)

Average Delay (sec/veh): 22.8

Optimal Cycle: 81

Level Of Service: C

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Protected Protected

Rights: Include Include Include Include

Min Green: 10 20 20 10 20 20 10 20 20 10 20 20

Lanes: 1 0 1 1 0 1 1 0 1 0 1 1 0 1 0 1 1 1

Volume Module:

Base Vol: 75 72 0 759 0 6 86 277 3 0 456 330

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 75 72 0 759 0 6 86 277 3 0 456 330

Added Vol: 0 183 234 0 128 0 0 74 0 159 51 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0

Initial Fut: 75 255 234 759 128 6 86 351 3 159 507 330

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 75 255 234 759 128 6 86 351 3 159 507 330

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 75 255 234 759 128 6 86 351 3 159 507 330

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

MLF Adj: 1.00 1.05 1.05 1.05 1.00 1.00 1.00 1.05 1.05 1.00 1.10 1.10

Final Vol.: 75 268 245 797 128 6 86 369 3 159 557 363

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 0.95 0.93 0.93 0.95 0.99 0.99 0.95 1.00 1.00 0.95 0.94 0.94

Lanes: 1.00 1.04 0.96 2.00 0.96 0.04 1.00 1.98 0.02 1.00 1.82 1.18

Final Sat.: 1805 1846 1688 3610 1797 84 1805 3769 31 1805 3244 2114

Capacity Analysis Module:

Vol/Sat: 0.04 0.15 0.15 0.22 0.07 0.07 0.05 0.10 0.10 0.09 0.17 0.17

Crit Moves: \*\*\*\*

Green/Cycle: 0.21 0.21 0.21 0.32 0.32 0.32 0.10 0.23 0.23 0.12 0.25 0.25

Volume/Cap: 0.19 0.68 0.68 0.68 0.22 0.22 0.48 0.42 0.42 0.75 0.68 0.68

Level Of Service Module:

Delay/Veh: 20.9 25.1 25.1 19.9 15.9 15.9 29.0 21.2 21.2 36.9 22.8 22.8

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 20.9 25.1 25.1 19.9 15.9 15.9 29.0 21.2 21.2 36.9 22.8 22.8

Queue: 2 7 7 20 3 0 2 9 0 5 14 10



FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative - Mitigated  
AM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.675  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 28.9  
Optimal Cycle: 82 Level Of Service: D

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Split Phase |    |    | Split Phase |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 0           | 1  | 0  | 1           | 0  | 1  | 0          | 1  | 0  | 1          | 0  | 1  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 8    | 0    | 31   | 26   | 0    | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 8    | 0    | 31   | 26   | 0    | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| Added Vol:   | 0    | 778  | 0    | 0    | 1020 | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 8    | 778  | 31   | 26   | 1020 | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 8    | 778  | 31   | 26   | 1020 | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 8    | 778  | 31   | 26   | 1020 | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 8    | 817  | 33   | 27   | 1071 | 27   | 8    | 6    | 29   | 50   | 59   | 56   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.99 | 0.99 | 0.99 | 1.00 | 1.00 | 1.00 | 0.95 | 0.88 | 0.88 | 0.95 | 0.93 | 0.93 |
| Lanes:      | 0.02 | 1.90 | 0.08 | 0.05 | 1.90 | 0.05 | 1.00 | 0.17 | 0.83 | 1.00 | 0.51 | 0.49 |
| Final Sat.: | 35   | 3582 | 145  | 91   | 3618 | 91   | 1805 | 287  | 1385 | 1805 | 907  | 860  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.23 | 0.23 | 0.23 | 0.30 | 0.30 | 0.30 | 0.00 | 0.02 | 0.02 | 0.03 | 0.07 | 0.07 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.25 | 0.25 | 0.25 | 0.33 | 0.33 | 0.33 | 0.10 | 0.20 | 0.20 | 0.10 | 0.20 | 0.20 |
| Volume/Cap:  | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.04 | 0.10 | 0.10 | 0.28 | 0.33 | 0.33 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 31.9 | 31.9 | 31.9 | 27.6 | 27.6 | 27.6 | 26.3 | 21.1 | 21.1 | 27.1 | 22.3 | 22.3 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 31.9 | 31.9 | 31.9 | 27.6 | 27.6 | 27.6 | 26.3 | 21.1 | 21.1 | 27.1 | 22.3 | 22.3 |
| Queue:       | 1    | 25   | 2    | 2    | 31   | 2    | 0    | 0    | 1    | 1    | 1    | 1    |

FISCO/Port Vision 2000 EIS/EIR  
Maximum Marine/Maximum Rail Alternative - Mitigated  
PM Peak Hour

Level Of Service Computation Report

1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.669  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 26.4  
Optimal Cycle: 82 Level Of Service: D

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Split Phase |    |    | Split Phase |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 0           | 1  | 0  | 1           | 0  | 1  | 0          | 1  | 0  | 1          | 0  | 1  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 36   | 0    | 122  | 43   | 0    | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 36   | 0    | 122  | 43   | 0    | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Added Vol:   | 0    | 955  | 0    | 0    | 628  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 36   | 955  | 122  | 43   | 628  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 36   | 955  | 122  | 43   | 628  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 36   | 955  | 122  | 43   | 628  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 38   | 1003 | 128  | 45   | 659  | 16   | 30   | 14   | 13   | 89   | 39   | 78   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 | 0.95 | 0.93 | 0.93 | 0.95 | 0.90 | 0.90 |
| Lanes:      | 0.06 | 1.72 | 0.22 | 0.12 | 1.84 | 0.04 | 1.00 | 0.52 | 0.48 | 1.00 | 0.33 | 0.67 |
| Final Sat.: | 121  | 3195 | 408  | 238  | 3478 | 84   | 1805 | 916  | 851  | 1805 | 570  | 1140 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.31 | 0.31 | 0.31 | 0.19 | 0.19 | 0.19 | 0.02 | 0.02 | 0.02 | 0.05 | 0.07 | 0.07 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.36 | 0.36 | 0.36 | 0.22 | 0.22 | 0.22 | 0.10 | 0.20 | 0.20 | 0.10 | 0.20 | 0.20 |
| Volume/Cap:  | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.17 | 0.08 | 0.08 | 0.49 | 0.34 | 0.34 |

Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 23.7 | 23.7 | 23.7 | 31.2 | 31.2 | 31.2 | 26.6 | 21.0 | 21.0 | 29.3 | 22.4 | 22.4 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 23.7 | 23.7 | 23.7 | 31.2 | 31.2 | 31.2 | 26.6 | 21.0 | 21.0 | 29.3 | 22.4 | 22.4 |
| Queue:       | 2    | 28   | 5    | 2    | 20   | 1    | 1    | 0    | 0    | 2    | 1    | 2    |



Table J.7-11 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative - Mitigated  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.633  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 25.3  
Optimal Cycle: 82 Level Of Service: D

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Split Phase |    |    | Split Phase |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 0           | 1  | 0  | 0           | 1  | 0  | 1          | 0  | 0  | 1          | 0  | 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 8    | 0    | 31   | 26   | 0    | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 8    | 0    | 31   | 26   | 0    | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| Added Vol:   | 0    | 700  | 0    | 0    | 966  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 8    | 700  | 31   | 26   | 966  | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 8    | 700  | 31   | 26   | 966  | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 8    | 700  | 31   | 26   | 966  | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 8    | 735  | 33   | 27   | 1014 | 27   | 8    | 6    | 29   | 50   | 59   | 56   |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.99 | 0.99 | 0.99 | 1.00 | 1.00 | 1.00 | 0.95 | 0.88 | 0.88 | 0.95 | 0.93 | 0.93 |
| Lanes:      | 0.02 | 1.89 | 0.09 | 0.05 | 1.90 | 0.05 | 1.00 | 0.17 | 0.83 | 1.00 | 0.51 | 0.49 |
| Final Sat.: | 39   | 3563 | 160  | 96   | 3608 | 96   | 1805 | 287  | 1385 | 1805 | 907  | 860  |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.21 | 0.21 | 0.21 | 0.28 | 0.28 | 0.28 | 0.00 | 0.02 | 0.02 | 0.03 | 0.07 | 0.07 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.25 | 0.25 | 0.25 | 0.33 | 0.33 | 0.33 | 0.10 | 0.20 | 0.20 | 0.10 | 0.20 | 0.20 |
| Volume/Cap:  | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.04 | 0.10 | 0.10 | 0.28 | 0.33 | 0.33 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 28.1 | 28.1 | 28.1 | 23.6 | 23.6 | 23.6 | 26.3 | 21.1 | 21.1 | 27.1 | 22.3 | 22.3 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 28.1 | 28.1 | 28.1 | 23.6 | 23.6 | 23.6 | 26.3 | 21.1 | 21.1 | 27.1 | 22.3 | 22.3 |
| Queue:       | 1    | 21   | 2    | 1    | 28   | 1    | 0    | 0    | 1    | 1    | 1    | 1    |

B-PM-MIT.CMD

Tue Nov 5, 1996 13:38:17

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FISCO/Port Vision 2000 EIS/EIR  
Minimum Marine/Minimum Rail Alternative - Mitigated  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.630  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 24.0  
Optimal Cycle: 82 Level Of Service: C

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Split Phase |    |    | Split Phase |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 0           | 1  | 0  | 0           | 1  | 0  | 1          | 0  | 0  | 1          | 0  | 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 36   | 0    | 122  | 43   | 0    | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 36   | 0    | 122  | 43   | 0    | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Added Vol:   | 0    | 891  | 0    | 0    | 570  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 36   | 891  | 122  | 43   | 570  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 36   | 891  | 122  | 43   | 570  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 36   | 891  | 122  | 43   | 570  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 38   | 936  | 128  | 45   | 599  | 16   | 30   | 14   | 13   | 89   | 39   | 78   |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 | 0.95 | 0.93 | 0.93 | 0.95 | 0.90 | 0.90 |
| Lanes:      | 0.07 | 1.70 | 0.23 | 0.14 | 1.81 | 0.05 | 1.00 | 0.52 | 0.48 | 1.00 | 0.33 | 0.67 |
| Final Sat.: | 128  | 3163 | 433  | 259  | 3449 | 92   | 1805 | 916  | 851  | 1805 | 570  | 1140 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.30 | 0.30 | 0.30 | 0.17 | 0.17 | 0.17 | 0.02 | 0.02 | 0.02 | 0.05 | 0.07 | 0.07 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.37 | 0.37 | 0.37 | 0.21 | 0.21 | 0.21 | 0.10 | 0.20 | 0.20 | 0.10 | 0.20 | 0.20 |
| Volume/Cap:  | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.17 | 0.08 | 0.08 | 0.49 | 0.34 | 0.34 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 21.1 | 21.1 | 21.1 | 28.4 | 28.4 | 28.4 | 26.6 | 21.0 | 21.0 | 29.3 | 22.4 | 22.4 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 21.1 | 21.1 | 21.1 | 28.4 | 28.4 | 28.4 | 26.6 | 21.0 | 21.0 | 29.3 | 22.4 | 22.4 |
| Queue:       | 2    | 25   | 4    | 2    | 17   | 1    | 1    | 0    | 0    | 2    | 1    | 2    |

|  |                          |      |      |                          |      |      |            |      |      |            |      |       |          |  |
|--|--------------------------|------|------|--------------------------|------|------|------------|------|------|------------|------|-------|----------|--|
| C-AM-MIT.CMD   | Tue Nov 5, 1996 14:05:58 |      |      |                          |      |      |            |      |      |            |      |       | Page 1-1 |  |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |      |      |                          |      |      |            |      |      |            |      |       |          |  |
| Maximum Marine/Minimum Rail Alternative - Mitigated    |                          |      |      |                          |      |      |            |      |      |            |      |       |          |  |
| AM Peak Hour   |                          |      |      |                          |      |      |            |      |      |            |      |       |          |  |
| Level Of Service Computation Report                    |                          |      |      |                          |      |      |            |      |      |            |      |       |          |  |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |      |      |                          |      |      |            |      |      |            |      |       |          |  |
| Intersection #8 Adeline St./ 3rd St.                   |                          |      |      |                          |      |      |            |      |      |            |      |       |          |  |
| Cycle (sec):   | 100                      |      |      | Critical Vol./Cap. (X):  |      |      |            |      |      |            |      | 0.720 |          |  |
| Loss Time (sec):                                       | 12 (Y+R = 4 sec)         |      |      | Average Delay (sec/veh): |      |      |            |      |      |            |      | 36.6  |          |  |
| Optimal Cycle:   | 82                       |      |      | Level Of Service:        |      |      |            |      |      |            |      | D     |          |  |
| Approach:  | North Bound              |      |      | South Bound              |      |      | East Bound |      |      | West Bound |      |       |          |  |
| Movement:  | L                        | T    | R    | L                        | T    | R    | L          | T    | R    | L          | T    | R     |          |  |
| Control:   | Split Phase              |      |      | Split Phase              |      |      | Protected  |      |      | Protected  |      |       |          |  |
| Rights:  | Include                  |      |      | Include                  |      |      | Include    |      |      | Include    |      |       |          |  |
| Min. Green:  | 10                       | 20   | 20   | 10                       | 20   | 20   | 10         | 20   | 20   | 10         | 20   | 20    |          |  |
| Lanes:   | 0                        | 1    | 0    | 1                        | 0    | 0    | 1          | 0    | 0    | 1          | 0    | 0     |          |  |
| Volume Module:   |                          |      |      |                          |      |      |            |      |      |            |      |       |          |  |
| Base Vol:  | 8                        | 0    | 31   | 26                       | 0    | 26   | 8          | 6    | 29   | 50         | 59   | 56    |          |  |
| Growth Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |  |
| Initial Bse:   | 8                        | 0    | 31   | 26                       | 0    | 26   | 8          | 6    | 29   | 50         | 59   | 56    |          |  |
| Added Vol:   | 0                        | 828  | 0    | 0                        | 1113 | 0    | 0          | 0    | 0    | 0          | 0    | 0     |          |  |
| PasserByVol:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |          |  |
| Initial Fut:   | 8                        | 828  | 31   | 26                       | 1113 | 26   | 8          | 6    | 29   | 50         | 59   | 56    |          |  |
| User Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |  |
| PHF Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |  |
| PHF Volume:  | 8                        | 828  | 31   | 26                       | 1113 | 26   | 8          | 6    | 29   | 50         | 59   | 56    |          |  |
| Reduct Vol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0     |          |  |
| Reduced Vol:   | 8                        | 828  | 31   | 26                       | 1113 | 26   | 8          | 6    | 29   | 50         | 59   | 56    |          |  |
| PCE Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |  |
| MLF Adj:   | 1.05                     | 1.05 | 1.05 | 1.05                     | 1.05 | 1.05 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |  |
| Final Vol.:  | 8                        | 870  | 33   | 27                       | 1169 | 27   | 8          | 6    | 29   | 50         | 59   | 56    |          |  |
| Saturation Flow Module:                                |                          |      |      |                          |      |      |            |      |      |            |      |       |          |  |
| Sat/Lane:  | 1900                     | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900  |          |  |
| Adjustment:  | 0.99                     | 0.99 | 0.99 | 1.00                     | 1.00 | 1.00 | 0.95       | 0.88 | 0.88 | 0.95       | 0.93 | 0.93  |          |  |
| Lanes:   | 0.02                     | 1.91 | 0.07 | 0.04                     | 1.92 | 0.04 | 1.00       | 0.17 | 0.83 | 1.00       | 0.51 | 0.49  |          |  |
| Final Sat.:  | 33                       | 3593 | 136  | 84                       | 3632 | 84   | 1805       | 287  | 1385 | 1805       | 907  | 860   |          |  |
| Capacity Analysis Module:                              |                          |      |      |                          |      |      |            |      |      |            |      |       |          |  |
| Vol/Sat:   | 0.24                     | 0.24 | 0.24 | 0.32                     | 0.32 | 0.32 | 0.00       | 0.02 | 0.02 | 0.03       | 0.07 | 0.07  |          |  |
| Crit Moves:  | ****                     |      |      | ****                     |      |      | ****       |      |      | ****       |      |       |          |  |
| Green/Cycle:   | 0.25                     | 0.25 | 0.25 | 0.33                     | 0.33 | 0.33 | 0.10       | 0.20 | 0.20 | 0.10       | 0.20 | 0.20  |          |  |
| Volume/Cap:  | 0.97                     | 0.97 | 0.97 | 0.97                     | 0.97 | 0.97 | 0.04       | 0.10 | 0.10 | 0.28       | 0.33 | 0.33  |          |  |
| Level Of Service Module:                               |                          |      |      |                          |      |      |            |      |      |            |      |       |          |  |
| Delay/Veh:   | 41.1                     | 41.1 | 41.1 | 35.6                     | 35.6 | 35.6 | 26.3       | 21.1 | 21.1 | 27.1       | 22.3 | 22.3  |          |  |
| User DelAdj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  |          |  |
| AdjDel/Veh:  | 41.1                     | 41.1 | 41.1 | 35.6                     | 35.6 | 35.6 | 26.3       | 21.1 | 21.1 | 27.1       | 22.3 | 22.3  |          |  |
| Queue:   | 1                        | 30   | 2    | 2                        | 38   | 2    | 0          | 0    | 1    | 1          | 1    | 1     |          |  |

|  |                          |      |      |                          |      |      |            |      |      |            |      |      |          |
|--|--------------------------|------|------|--------------------------|------|------|------------|------|------|------------|------|------|----------|
| C-PM-MIT.CMD   | Tue Nov 5, 1996 14:05:26 |      |      |                          |      |      |            |      |      |            |      |      | Page 1-1 |
| FISCO/Port Vision 2000 EIS/EIR                         |                          |      |      |                          |      |      |            |      |      |            |      |      |          |
| Maximum Marine/Minimum Rail Alternative - Mitigated    |                          |      |      |                          |      |      |            |      |      |            |      |      |          |
| PM Peak Hour   |                          |      |      |                          |      |      |            |      |      |            |      |      |          |
| Level Of Service Computation Report                    |                          |      |      |                          |      |      |            |      |      |            |      |      |          |
| 1994 HCM Operations Method (Future Volume Alternative) |                          |      |      |                          |      |      |            |      |      |            |      |      |          |
| Intersection #8 Adeline St./ 3rd St.                   |                          |      |      |                          |      |      |            |      |      |            |      |      |          |
| Cycle (sec):   | 100                      |      |      | Critical Vol./Cap. (X):  |      |      |            |      |      | 0.706      |      |      |          |
| Loss Time (sec):                                       | 12 (Y+R = 4 sec)         |      |      | Average Delay (sec/veh): |      |      |            |      |      | 30.2       |      |      |          |
| Optimal Cycle:   | 82                       |      |      | Level Of Service:        |      |      |            |      |      | D          |      |      |          |
| Approach:  | North Bound              |      |      | South Bound              |      |      | East Bound |      |      | West Bound |      |      |          |
| Movement:  | L                        | T    | R    | L                        | T    | R    | L          | T    | R    | L          | T    | R    |          |
| Control:   | Split Phase              |      |      | Split Phase              |      |      | Protected  |      |      | Protected  |      |      |          |
| Rights:  | Include                  |      |      | Include                  |      |      | Include    |      |      | Include    |      |      |          |
| Min. Green:  | 10                       | 20   | 20   | 10                       | 20   | 20   | 10         | 20   | 20   | 10         | 20   | 20   |          |
| Lanes:   | 0                        | 1    | 0    | 1                        | 0    | 0    | 1          | 0    | 0    | 1          | 0    | 0    |          |
| Volume Module:   |                          |      |      |                          |      |      |            |      |      |            |      |      |          |
| Base Vol:  | 36                       | 0    | 122  | 43                       | 0    | 15   | 30         | 14   | 13   | 89         | 39   | 78   |          |
| Growth Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |
| Initial Bse:   | 36                       | 0    | 122  | 43                       | 0    | 15   | 30         | 14   | 13   | 89         | 39   | 78   |          |
| Added Vol:   | 0                        | 1041 | 0    | 0                        | 670  | 0    | 0          | 0    | 0    | 0          | 0    | 0    |          |
| PasserByVol:   | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |          |
| Initial Fut:   | 36                       | 1041 | 122  | 43                       | 670  | 15   | 30         | 14   | 13   | 89         | 39   | 78   |          |
| User Adj:  | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |
| PHF Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |
| PHF Volume:  | 36                       | 1041 | 122  | 43                       | 670  | 15   | 30         | 14   | 13   | 89         | 39   | 78   |          |
| Reduct Vol:  | 0                        | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |          |
| Reduced Vol:   | 36                       | 1041 | 122  | 43                       | 670  | 15   | 30         | 14   | 13   | 89         | 39   | 78   |          |
| PCE Adj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |
| MLF Adj:   | 1.05                     | 1.05 | 1.05 | 1.05                     | 1.05 | 1.05 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |
| Final Vol.:  | 38                       | 1093 | 128  | 45                       | 704  | 16   | 30         | 14   | 13   | 89         | 39   | 78   |          |
| Saturation Flow Module:                                |                          |      |      |                          |      |      |            |      |      |            |      |      |          |
| Sat/Lane:  | 1900                     | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900 |          |
| Adjustment:  | 0.99                     | 0.99 | 0.99 | 1.00                     | 1.00 | 1.00 | 0.95       | 0.93 | 0.93 | 0.95       | 0.90 | 0.90 |          |
| Lanes:   | 0.06                     | 1.74 | 0.20 | 0.12                     | 1.84 | 0.04 | 1.00       | 0.52 | 0.48 | 1.00       | 0.33 | 0.67 |          |
| Final Sat.:  | 114                      | 3266 | 382  | 224                      | 3497 | 79   | 1805       | 916  | 851  | 1805       | 570  | 1140 |          |
| Capacity Analysis Module:                              |                          |      |      |                          |      |      |            |      |      |            |      |      |          |
| Vol/Sat:   | 0.33                     | 0.33 | 0.33 | 0.20                     | 0.20 | 0.20 | 0.02       | 0.02 | 0.02 | 0.05       | 0.07 | 0.07 |          |
| Crit Moves:  | ****                     |      |      | ****                     |      |      | ****       |      |      | ****       |      |      |          |
| Green/Cycle:   | 0.36                     | 0.36 | 0.36 | 0.22                     | 0.22 | 0.22 | 0.10       | 0.20 | 0.20 | 0.10       | 0.20 | 0.20 |          |
| Volume/Cap:  | 0.92                     | 0.92 | 0.92 | 0.92                     | 0.92 | 0.92 | 0.17       | 0.08 | 0.08 | 0.49       | 0.34 | 0.34 |          |
| Level Of Service Module:                               |                          |      |      |                          |      |      |            |      |      |            |      |      |          |
| Delay/Veh:   | 27.6                     | 27.6 | 27.6 | 36.2                     | 36.2 | 36.2 | 26.6       | 21.0 | 21.0 | 29.3       | 22.4 | 22.4 |          |
| User DelAdj:   | 1.00                     | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |          |
| AdjDel/Veh:  | 27.6                     | 27.6 | 27.6 | 36.2                     | 36.2 | 36.2 | 26.6       | 21.0 | 21.0 | 29.3       | 22.4 | 22.4 |          |
| Queue:   | 2                        | 33   | 5    | 2                        | 23   | 1    | 1          | 0    | 0    | 2          | 1    | ?    |          |

Table J.7-11 (Continued)

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative - Mitigated  
AM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.688  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 30.5  
Optimal Cycle: 82 Level Of Service: D

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Split Phase |    |    | Split Phase |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 0           | 1  | 0  | 0           | 1  | 0  | 1          | 0  | 0  | 1          | 0  | 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 8    | 0    | 31   | 26   | 0    | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 8    | 0    | 31   | 26   | 0    | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| Added Vol:   | 0    | 793  | 0    | 0    | 1048 | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 8    | 793  | 31   | 26   | 1048 | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 8    | 793  | 31   | 26   | 1048 | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 8    | 793  | 31   | 26   | 1048 | 26   | 8    | 6    | 29   | 50   | 59   | 56   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 8    | 832  | 33   | 27   | 1100 | 27   | 8    | 6    | 29   | 50   | 59   | 56   |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.99 | 0.99 | 0.99 | 1.00 | 1.00 | 1.00 | 0.95 | 0.88 | 0.88 | 0.95 | 0.93 | 0.93 |
| Lanes:      | 0.02 | 1.91 | 0.07 | 0.05 | 1.90 | 0.05 | 1.00 | 0.17 | 0.83 | 1.00 | 0.51 | 0.49 |
| Final Sat.: | 34   | 3585 | 142  | 89   | 3622 | 89   | 1805 | 287  | 1385 | 1805 | 907  | 860  |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.23 | 0.23 | 0.23 | 0.30 | 0.30 | 0.30 | 0.00 | 0.02 | 0.02 | 0.03 | 0.07 | 0.07 |
| Crit Moves:  | ***  | ***  | ***  | ***  | ***  | ***  | ***  | ***  | ***  | ***  | ***  | ***  |
| Green/Cycle: | 0.25 | 0.25 | 0.25 | 0.33 | 0.33 | 0.33 | 0.10 | 0.20 | 0.20 | 0.10 | 0.20 | 0.20 |
| Volume/Cap:  | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.04 | 0.10 | 0.10 | 0.28 | 0.33 | 0.33 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 33.9 | 33.9 | 33.9 | 29.2 | 29.2 | 29.2 | 26.3 | 21.1 | 21.1 | 27.1 | 22.3 | 22.3 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 33.9 | 33.9 | 33.9 | 29.2 | 29.2 | 29.2 | 26.3 | 21.1 | 21.1 | 27.1 | 22.3 | 22.3 |
| Queue:       | 1    | 26   | 2    | 2    | 33   | 2    | 0    | 0    | 1    | 1    | 1    | 1    |

D-PM-MIT.CMD

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FISCO/Port Vision 2000 EIS/EIR  
Reduced Harbor Fill Alternative - Mitigated  
PM Peak Hour

Level Of Service Computation Report  
1994 HCM Operations Method (Future Volume Alternative)

Intersection #8 Adeline St./ 3rd St.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.680  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 27.3  
Optimal Cycle: 82 Level Of Service: D

| Approach:   | North Bound |    |    | South Bound |    |    | East Bound |    |    | West Bound |    |    |
|-------------|-------------|----|----|-------------|----|----|------------|----|----|------------|----|----|
| Movement:   | L           | T  | R  | L           | T  | R  | L          | T  | R  | L          | T  | R  |
| Control:    | Split Phase |    |    | Split Phase |    |    | Protected  |    |    | Protected  |    |    |
| Rights:     | Include     |    |    | Include     |    |    | Include    |    |    | Include    |    |    |
| Min. Green: | 10          | 20 | 20 | 10          | 20 | 20 | 10         | 20 | 20 | 10         | 20 | 20 |
| Lanes:      | 0           | 1  | 0  | 0           | 1  | 0  | 1          | 0  | 0  | 1          | 0  | 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 36   | 0    | 122  | 43   | 0    | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 36   | 0    | 122  | 43   | 0    | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Added Vol:   | 0    | 979  | 0    | 0    | 640  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 36   | 979  | 122  | 43   | 640  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 36   | 979  | 122  | 43   | 640  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 36   | 979  | 122  | 43   | 640  | 15   | 30   | 14   | 13   | 89   | 39   | 78   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 38   | 1028 | 128  | 45   | 672  | 16   | 30   | 14   | 13   | 89   | 39   | 78   |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 | 0.95 | 0.93 | 0.93 | 0.95 | 0.90 | 0.90 |
| Lanes:      | 0.06 | 1.73 | 0.21 | 0.12 | 1.84 | 0.04 | 1.00 | 0.52 | 0.48 | 1.00 | 0.33 | 0.67 |
| Final Sat.: | 119  | 3206 | 399  | 233  | 3484 | 83   | 1805 | 916  | 851  | 1805 | 570  | 1140 |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.32 | 0.32 | 0.32 | 0.19 | 0.19 | 0.19 | 0.02 | 0.02 | 0.02 | 0.05 | 0.07 | 0.07 |
| Crit Moves:  | ***  | ***  | ***  | ***  | ***  | ***  | ***  | ***  | ***  | ***  | ***  | ***  |
| Green/Cycle: | 0.36 | 0.36 | 0.36 | 0.22 | 0.22 | 0.22 | 0.10 | 0.20 | 0.20 | 0.10 | 0.20 | 0.20 |
| Volume/Cap:  | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.17 | 0.08 | 0.08 | 0.49 | 0.34 | 0.34 |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Delay/Veh:   | 24.7 | 24.7 | 24.7 | 32.5 | 32.5 | 32.5 | 26.6 | 21.0 | 21.0 | 29.3 | 22.4 | 22.4 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 24.7 | 24.7 | 24.7 | 32.5 | 32.5 | 32.5 | 26.6 | 21.0 | 21.0 | 29.3 | 22.4 | 22.4 |
| Queue:       | 2    | 29   | 5    | 2    | 20   | 1    | 1    | 0    | 0    | 2    | 1    | 2    |

**Appendix J.8**  
**Freeway LOS Calculations - AM and PM Peak Hour**





**Table J.8-1**  
**Freeway Level of Service Calculations - AM Peak Hour**

**1. I-80 at the Bay Bridge**

| Alternative                 | Level of Service |     | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |        | Change in Volume |    |
|-----------------------------|------------------|-----|------------------|------|-----------------|----|----------------|--------|------------------|----|
|                             | EB               | WB† | EB               | WB   | EB              | WB | EB             | WB     | EB               | WB |
| No Project                  | C                | F   | 0.61             | 1.07 | 5               | 5  | 6,130          | 10,728 | 0                | 0  |
| Maximum Marine/Maximum Rail | C                | F   | 0.62             | 1.08 | 5               | 5  | 6,207          | 10,758 | 77               | 30 |
| Minimum Marine/Minimum Rail | C                | F   | 0.62             | 1.08 | 5               | 5  | 6,184          | 10,753 | 54               | 25 |
| Maximum Marine/Minimum Rail | C                | F   | 0.62             | 1.08 | 5               | 5  | 6,219          | 10,760 | 89               | 32 |
| Reduced Harbor Fill         | C                | F   | 0.62             | 1.08 | 5               | 5  | 6,209          | 10,758 | 79               | 30 |

**2. I-80 Between I-880 & I-580**

| Alternative                 | Level of Service |     | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|-----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | EB               | WB† | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB  |
| No Project                  | B                | F   | 0.44             | 1.08 | 3               | 3  | 2,665          | 6,492 | 0                | 0   |
| Maximum Marine/Maximum Rail | B                | F   | 0.44             | 1.08 | 3               | 3  | 2,654          | 6,487 | -11              | -5  |
| Minimum Marine/Minimum Rail | B                | F   | 0.45             | 1.08 | 3               | 3  | 2,675          | 6,509 | 10               | 17  |
| Maximum Marine/Minimum Rail | B                | F   | 0.44             | 1.08 | 3               | 3  | 2,646          | 6,477 | -19              | -15 |
| Reduced Harbor Fill         | B                | F   | 0.44             | 1.08 | 3               | 3  | 2,652          | 6,485 | -13              | -7  |

**3. I-80 East of I-80/I-580 Split**

| Alternative                 | Level of Service |     | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|-----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB†              | WB† | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | D                | F   | 0.86             | 1.09 | 4               | 4  | 6,877          | 8,714 | 0                | 0  |
| Maximum Marine/Maximum Rail | D                | F   | 0.86             | 1.09 | 4               | 4  | 6,913          | 8,743 | 36               | 29 |
| Minimum Marine/Minimum Rail | D                | F   | 0.86             | 1.09 | 4               | 4  | 6,914          | 8,754 | 37               | 40 |
| Maximum Marine/Minimum Rail | D                | F   | 0.86             | 1.09 | 4               | 4  | 6,915          | 8,752 | 38               | 38 |
| Reduced Harbor Fill         | D                | F   | 0.86             | 1.09 | 4               | 4  | 6,913          | 8,745 | 36               | 31 |

**4. I-880 Connector to I-80 East**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB |
| No Project                  | B                | C  | 0.40             | 0.59 | 2               | 2  | 1,610          | 2,379 | 0                | 0  |
| Maximum Marine/Maximum Rail | B                | C  | 0.42             | 0.61 | 2               | 2  | 1,674          | 2,434 | 64               | 55 |
| Minimum Marine/Minimum Rail | B                | C  | 0.41             | 0.60 | 2               | 2  | 1,646          | 2,417 | 36               | 38 |
| Maximum Marine/Minimum Rail | B                | C  | 0.42             | 0.61 | 2               | 2  | 1,679          | 2,446 | 69               | 67 |
| Reduced Harbor Fill         | B                | C  | 0.42             | 0.61 | 2               | 2  | 1,676          | 2,438 | 66               | 59 |

**5. I-880 Connector to I-80 West**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |     | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-----|------------------|----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB  | NB               | SB |
| No Project                  | A                | A  | 0.33             | 0.20 | 2               | 2  | 1,300          | 810 | 0                | 0  |
| Maximum Marine/Maximum Rail | A                | A  | 0.33             | 0.22 | 2               | 2  | 1,318          | 881 | 18               | 71 |
| Minimum Marine/Minimum Rail | A                | A  | 0.33             | 0.22 | 2               | 2  | 1,335          | 882 | 35               | 72 |
| Maximum Marine/Minimum Rail | A                | A  | 0.33             | 0.22 | 2               | 2  | 1,313          | 884 | 13               | 74 |
| Reduced Harbor Fill         | A                | A  | 0.33             | 0.22 | 2               | 2  | 1,317          | 882 | 17               | 72 |

**6. I-880 North of 7th St.**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | B                | B  | 0.40             | 0.38 | 3               | 3  | 2,412          | 2,276 | 0                | 0   |
| Maximum Marine/Maximum Rail | B                | B  | 0.41             | 0.39 | 3               | 3  | 2,454          | 2,313 | 42               | 37  |
| Minimum Marine/Minimum Rail | B                | B  | 0.40             | 0.38 | 3               | 3  | 2,384          | 2,256 | -28              | -20 |
| Maximum Marine/Minimum Rail | B                | B  | 0.39             | 0.37 | 3               | 3  | 2,351          | 2,220 | -61              | -56 |
| Reduced Harbor Fill         | B                | B  | 0.41             | 0.39 | 3               | 3  | 2,457          | 2,319 | 45               | 43  |

† Freeway segment is excluded from compliance with Alameda County CMA Standards.

**Table J.8-1 (Continued)**  
**Freeway Level of Service Calculations - AM Peak Hour**

7. I-880 South of 7th St.

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | C                | B  | 0.64             | 0.42 | 3               | 3  | 3,844          | 2,509 | 0                | 0   |
| Maximum Marine/Maximum Rail | C                | B  | 0.67             | 0.44 | 3               | 3  | 4,030          | 2,665 | 186              | 156 |
| Minimum Marine/Minimum Rail | C                | B  | 0.66             | 0.43 | 3               | 3  | 3,931          | 2,584 | 87               | 75  |
| Maximum Marine/Minimum Rail | C                | B  | 0.63             | 0.41 | 3               | 3  | 3,793          | 2,436 | -51              | -73 |
| Reduced Harbor Fill         | C                | B  | 0.67             | 0.44 | 3               | 3  | 4,022          | 2,661 | 178              | 152 |

8. I-880 North of I-980

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | C                | A  | 0.63             | 0.33 | 3               | 3  | 3,757          | 1,981 | 0                | 0   |
| Maximum Marine/Maximum Rail | C                | A  | 0.65             | 0.35 | 3               | 3  | 3,900          | 2,096 | 143              | 115 |
| Minimum Marine/Minimum Rail | C                | A  | 0.65             | 0.35 | 3               | 3  | 3,872          | 2,089 | 115              | 108 |
| Maximum Marine/Minimum Rail | C                | A  | 0.63             | 0.35 | 3               | 3  | 3,768          | 2,100 | 11               | 119 |
| Reduced Harbor Fill         | C                | A  | 0.65             | 0.35 | 3               | 3  | 3,890          | 2,095 | 133              | 114 |

9. I-880 South of I-980

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | E                | C  | 0.93             | 0.66 | 4               | 4  | 7,447          | 5,258 | 0                | 0   |
| Maximum Marine/Maximum Rail | E                | C  | 0.95             | 0.67 | 4               | 4  | 7,598          | 5,373 | 151              | 115 |
| Minimum Marine/Minimum Rail | E                | C  | 0.95             | 0.67 | 4               | 4  | 7,585          | 5,366 | 138              | 108 |
| Maximum Marine/Minimum Rail | E                | C  | 0.95             | 0.67 | 4               | 4  | 7,621          | 5,377 | 174              | 119 |
| Reduced Harbor Fill         | E                | C  | 0.95             | 0.67 | 4               | 4  | 7,603          | 5,372 | 156              | 114 |

10. I-880 North of I-238

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | F                | D  | 1.14             | 0.90 | 4               | 4  | 9,080          | 7,168 | 0                | 0   |
| Maximum Marine/Maximum Rail | F                | D  | 1.15             | 0.91 | 4               | 4  | 9,231          | 7,283 | 151              | 115 |
| Minimum Marine/Minimum Rail | F                | D  | 1.15             | 0.91 | 4               | 4  | 9,218          | 7,276 | 138              | 108 |
| Maximum Marine/Minimum Rail | F                | D  | 1.16             | 0.91 | 4               | 4  | 9,254          | 7,287 | 174              | 119 |
| Reduced Harbor Fill         | F                | D  | 1.15             | 0.91 | 4               | 4  | 9,236          | 7,282 | 156              | 114 |

11. I-880 South of I-238

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |        | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|--------|------------------|----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB     | NB               | SB |
| No Project                  | F                | F  | 1.17             | 1.27 | 4               | 4  | 9,395          | 10,136 | 0                | 0  |
| Maximum Marine/Maximum Rail | F                | F  | 1.19             | 1.28 | 4               | 4  | 9,512          | 10,211 | 117              | 75 |
| Minimum Marine/Minimum Rail | F                | F  | 1.19             | 1.28 | 4               | 4  | 9,494          | 10,205 | 99               | 69 |
| Maximum Marine/Minimum Rail | F                | F  | 1.19             | 1.28 | 4               | 4  | 9,528          | 10,214 | 133              | 78 |
| Reduced Harbor Fill         | F                | F  | 1.19             | 1.28 | 4               | 4  | 9,516          | 10,211 | 121              | 75 |

12. I-238

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB†              | WB | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | B                | F  | 0.53             | 1.01 | 3               | 3  | 3,163          | 6,089 | 0                | 0  |
| Maximum Marine/Maximum Rail | B                | F  | 0.53             | 1.02 | 3               | 3  | 3,203          | 6,123 | 40               | 34 |
| Minimum Marine/Minimum Rail | B                | F  | 0.53             | 1.02 | 3               | 3  | 3,202          | 6,128 | 39               | 39 |
| Maximum Marine/Minimum Rail | B                | F  | 0.53             | 1.02 | 3               | 3  | 3,204          | 6,130 | 41               | 41 |
| Reduced Harbor Fill         | B                | F  | 0.53             | 1.02 | 3               | 3  | 3,202          | 6,125 | 39               | 36 |

† Freeway segment is excluded from compliance with Alameda County CMA Standards.



**Table J.8-1 (Continued)**  
**Freeway Level of Service Calculations - AM Peak Hour**

**13. I-580 East of I-238**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB               | WB | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | C                | D  | 0.65             | 0.87 | 5               | 5  | 6,539          | 8,658 | 0                | 0  |
| Maximum Marine/Maximum Rail | C                | D  | 0.66             | 0.87 | 5               | 5  | 6,579          | 8,693 | 40               | 35 |
| Minimum Marine/Minimum Rail | C                | D  | 0.66             | 0.87 | 5               | 5  | 6,578          | 8,700 | 39               | 42 |
| Maximum Marine/Minimum Rail | C                | D  | 0.66             | 0.87 | 5               | 5  | 6,580          | 8,699 | 41               | 41 |
| Reduced Harbor Fill         | C                | D  | 0.66             | 0.87 | 5               | 5  | 6,578          | 8,694 | 39               | 36 |

**14. I-580 West of I-238**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB               | WB | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | D                | E  | 0.93             | 0.95 | 4               | 4  | 7,418          | 7,630 | 0                | 0  |
| Maximum Marine/Maximum Rail | D                | E  | 0.93             | 0.95 | 4               | 4  | 7,418          | 7,630 | 0                | 0  |
| Minimum Marine/Minimum Rail | D                | E  | 0.93             | 0.95 | 4               | 4  | 7,418          | 7,630 | 0                | 0  |
| Maximum Marine/Minimum Rail | D                | E  | 0.93             | 0.95 | 4               | 4  | 7,418          | 7,630 | 0                | 0  |
| Reduced Harbor Fill         | D                | E  | 0.93             | 0.95 | 4               | 4  | 7,418          | 7,630 | 0                | 0  |

**15. I-580 East of I-980/SH 24**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB               | WB | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | C                | F  | 0.60             | 1.09 | 4               | 4  | 4,783          | 8,698 | 0                | 0  |
| Maximum Marine/Maximum Rail | C                | F  | 0.60             | 1.09 | 4               | 4  | 4,783          | 8,698 | 0                | 0  |
| Minimum Marine/Minimum Rail | C                | F  | 0.60             | 1.09 | 4               | 4  | 4,783          | 8,698 | 0                | 0  |
| Maximum Marine/Minimum Rail | C                | F  | 0.60             | 1.09 | 4               | 4  | 4,783          | 8,698 | 0                | 0  |
| Reduced Harbor Fill         | C                | F  | 0.60             | 1.09 | 4               | 4  | 4,783          | 8,698 | 0                | 0  |

**16. I-580 West of I-980/SH 24**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB†              | WB | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | C                | E  | 0.67             | 0.98 | 5               | 5  | 6,665          | 9,843 | 0                | 0  |
| Maximum Marine/Maximum Rail | C                | E  | 0.67             | 0.99 | 5               | 5  | 6,681          | 9,864 | 16               | 21 |
| Minimum Marine/Minimum Rail | C                | E  | 0.67             | 0.99 | 5               | 5  | 6,675          | 9,858 | 10               | 15 |
| Maximum Marine/Minimum Rail | C                | E  | 0.67             | 0.99 | 5               | 5  | 6,676          | 9,857 | 11               | 14 |
| Reduced Harbor Fill         | C                | E  | 0.67             | 0.99 | 5               | 5  | 6,681          | 9,864 | 16               | 21 |

**17. I-980**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB†              | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | B                | D  | 0.43             | 0.83 | 4               | 4  | 3,403          | 6,619 | 0                | 0   |
| Maximum Marine/Maximum Rail | B                | D  | 0.42             | 0.82 | 4               | 4  | 3,391          | 6,599 | -12              | -20 |
| Minimum Marine/Minimum Rail | B                | D  | 0.42             | 0.83 | 4               | 4  | 3,398          | 6,612 | -5               | -7  |
| Maximum Marine/Minimum Rail | B                | D  | 0.42             | 0.83 | 4               | 4  | 3,397          | 6,609 | -6               | -10 |
| Reduced Harbor Fill         | B                | D  | 0.42             | 0.83 | 4               | 4  | 3,391          | 6,600 | -12              | -19 |

**18. SH 24 East of I-580**

| Alternative                 | Level of Service |     | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|-----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB†              | WB† | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | A                | F   | 0.30             | 1.01 | 4               | 4  | 2,436          | 8,090 | 0                | 0  |
| Maximum Marine/Maximum Rail | A                | F   | 0.31             | 1.01 | 4               | 4  | 2,448          | 8,091 | 12               | 1  |
| Minimum Marine/Minimum Rail | A                | F   | 0.31             | 1.01 | 4               | 4  | 2,444          | 8,095 | 8                | 5  |
| Maximum Marine/Minimum Rail | A                | F   | 0.31             | 1.01 | 4               | 4  | 2,450          | 8,093 | 14               | 3  |
| Reduced Harbor Fill         | A                | F   | 0.31             | 1.01 | 4               | 4  | 2,449          | 8,091 | 13               | 1  |

† Freeway segment is excluded from compliance with Alameda County CMA Standards.



**Table J.8-2**  
**Freeway Level of Service Calculations - PM Peak Hour**

1. I-80 at the Bay Bridge

| Alternative                 | Level of Service |     | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|-----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB               | WB† | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | F                | C   | 1.18             | 0.73 | 5               | 5  | 11,845         | 7,305 | 0                | 0  |
| Maximum Marine/Maximum Rail | F                | C   | 1.19             | 0.74 | 5               | 5  | 11,873         | 7,375 | 28               | 70 |
| Minimum Marine/Minimum Rail | F                | C   | 1.19             | 0.74 | 5               | 5  | 11,868         | 7,355 | 23               | 50 |
| Maximum Marine/Minimum Rail | F                | C   | 1.19             | 0.74 | 5               | 5  | 11,876         | 7,386 | 31               | 81 |
| Reduced Harbor Fill         | F                | C   | 1.19             | 0.74 | 5               | 5  | 11,873         | 7,377 | 28               | 72 |

2. I-80 Between I-880 & I-580

| Alternative                 | Level of Service |     | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|-----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | EB               | WB† | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB  |
| No Project                  | C                | B   | 0.70             | 0.41 | 3               | 3  | 4,217          | 2,430 | 0                | 0   |
| Maximum Marine/Maximum Rail | C                | B   | 0.70             | 0.40 | 3               | 3  | 4,211          | 2,422 | -6               | -8  |
| Minimum Marine/Minimum Rail | C                | B   | 0.71             | 0.41 | 3               | 3  | 4,233          | 2,439 | 16               | 9   |
| Maximum Marine/Minimum Rail | C                | B   | 0.70             | 0.40 | 3               | 3  | 4,202          | 2,416 | -15              | -14 |
| Reduced Harbor Fill         | C                | B   | 0.70             | 0.40 | 3               | 3  | 4,209          | 2,420 | -8               | -10 |

3. I-80 East of I-80/I-580 Split

| Alternative                 | Level of Service |     | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|-----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB†              | WB† | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | F                | F   | 1.20             | 1.02 | 4               | 4  | 9,614          | 8,123 | 0                | 0  |
| Maximum Marine/Maximum Rail | F                | F   | 1.21             | 1.02 | 4               | 4  | 9,650          | 8,151 | 36               | 28 |
| Minimum Marine/Minimum Rail | F                | F   | 1.21             | 1.02 | 4               | 4  | 9,656          | 8,153 | 42               | 30 |
| Maximum Marine/Minimum Rail | F                | F   | 1.21             | 1.02 | 4               | 4  | 9,658          | 8,153 | 44               | 30 |
| Reduced Harbor Fill         | F                | F   | 1.21             | 1.02 | 4               | 4  | 9,651          | 8,151 | 37               | 28 |

4. I-880 Connector to I-80 East

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB |
| No Project                  | B                | C  | 0.53             | 0.59 | 2               | 2  | 2,118          | 2,349 | 0                | 0  |
| Maximum Marine/Maximum Rail | C                | C  | 0.55             | 0.60 | 2               | 2  | 2,180          | 2,398 | 62               | 49 |
| Minimum Marine/Minimum Rail | B                | C  | 0.54             | 0.59 | 2               | 2  | 2,158          | 2,379 | 40               | 30 |
| Maximum Marine/Minimum Rail | C                | C  | 0.55             | 0.60 | 2               | 2  | 2,190          | 2,403 | 72               | 54 |
| Reduced Harbor Fill         | C                | C  | 0.55             | 0.60 | 2               | 2  | 2,182          | 2,400 | 64               | 51 |

5. I-880 Connector to I-80 West

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB |
| No Project                  | A                | A  | 0.25             | 0.31 | 2               | 2  | 1,010          | 1,240 | 0                | 0  |
| Maximum Marine/Maximum Rail | A                | A  | 0.27             | 0.32 | 2               | 2  | 1,074          | 1,260 | 64               | 20 |
| Minimum Marine/Minimum Rail | A                | A  | 0.27             | 0.32 | 2               | 2  | 1,076          | 1,272 | 66               | 32 |
| Maximum Marine/Minimum Rail | A                | A  | 0.27             | 0.31 | 2               | 2  | 1,075          | 1,256 | 65               | 16 |
| Reduced Harbor Fill         | A                | A  | 0.27             | 0.31 | 2               | 2  | 1,074          | 1,258 | 64               | 18 |

6. I-880 North of 7th St.

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | B                | B  | 0.40             | 0.45 | 3               | 3  | 2,419          | 2,687 | 0                | 0   |
| Maximum Marine/Maximum Rail | B                | B  | 0.41             | 0.45 | 3               | 3  | 2,460          | 2,719 | 41               | 32  |
| Minimum Marine/Minimum Rail | B                | B  | 0.40             | 0.44 | 3               | 3  | 2,400          | 2,666 | -19              | -21 |
| Maximum Marine/Minimum Rail | B                | B  | 0.39             | 0.44 | 3               | 3  | 2,368          | 2,640 | -51              | -47 |
| Reduced Harbor Fill         | B                | B  | 0.41             | 0.45 | 3               | 3  | 2,465          | 2,722 | 46               | 35  |

† Freeway segment is excluded from compliance with Alameda County CMA Standards.

**Table J.8-2 (Continued)**  
**Freeway Level of Service Calculations - PM Peak Hour**

**7. I-880 South of 7th St.**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | B                | C  | 0.49             | 0.68 | 3               | 3  | 2,928          | 4,060 | 0                | 0   |
| Maximum Marine/Maximum Rail | B                | C  | 0.51             | 0.71 | 3               | 3  | 3,063          | 4,232 | 135              | 172 |
| Minimum Marine/Minimum Rail | B                | C  | 0.50             | 0.69 | 3               | 3  | 2,984          | 4,150 | 56               | 90  |
| Maximum Marine/Minimum Rail | B                | C  | 0.48             | 0.67 | 3               | 3  | 2,867          | 4,022 | -61              | -38 |
| Reduced Harbor Fill         | B                | C  | 0.51             | 0.70 | 3               | 3  | 3,061          | 4,223 | 133              | 163 |

**8. I-880 North of I-980**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | B                | B  | 0.48             | 0.50 | 3               | 3  | 2,869          | 3,015 | 0                | 0   |
| Maximum Marine/Maximum Rail | B                | B  | 0.49             | 0.53 | 3               | 3  | 2,963          | 3,166 | 94               | 151 |
| Minimum Marine/Minimum Rail | B                | B  | 0.49             | 0.53 | 3               | 3  | 2,944          | 3,150 | 75               | 135 |
| Maximum Marine/Minimum Rail | B                | B  | 0.48             | 0.53 | 3               | 3  | 2,859          | 3,185 | -10              | 170 |
| Reduced Harbor Fill         | B                | B  | 0.49             | 0.53 | 3               | 3  | 2,956          | 3,169 | 87               | 154 |

**9. I-880 South of I-980**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | D                | C  | 0.93             | 0.76 | 4               | 4  | 7,426          | 6,051 | 0                | 0   |
| Maximum Marine/Maximum Rail | E                | D  | 0.94             | 0.78 | 4               | 4  | 7,518          | 6,202 | 92               | 151 |
| Minimum Marine/Minimum Rail | E                | D  | 0.94             | 0.77 | 4               | 4  | 7,514          | 6,186 | 88               | 135 |
| Maximum Marine/Minimum Rail | E                | D  | 0.94             | 0.78 | 4               | 4  | 7,524          | 6,221 | 98               | 170 |
| Reduced Harbor Fill         | E                | D  | 0.94             | 0.78 | 4               | 4  | 7,518          | 6,205 | 92               | 154 |

**10. I-880 North of I-238**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | F                | F  | 1.06             | 1.19 | 4               | 4  | 8,474          | 9,555 | 0                | 0   |
| Maximum Marine/Maximum Rail | F                | F  | 1.07             | 1.21 | 4               | 4  | 8,566          | 9,706 | 92               | 151 |
| Minimum Marine/Minimum Rail | F                | F  | 1.07             | 1.21 | 4               | 4  | 8,562          | 9,690 | 88               | 135 |
| Maximum Marine/Minimum Rail | F                | F  | 1.07             | 1.22 | 4               | 4  | 8,572          | 9,725 | 98               | 170 |
| Reduced Harbor Fill         | F                | F  | 1.07             | 1.21 | 4               | 4  | 8,566          | 9,709 | 92               | 154 |

**11. I-880 South of I-238**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB               | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | F                | F  | 1.20             | 1.21 | 4               | 4  | 9,574          | 9,655 | 0                | 0   |
| Maximum Marine/Maximum Rail | F                | F  | 1.20             | 1.22 | 4               | 4  | 9,636          | 9,768 | 62               | 113 |
| Minimum Marine/Minimum Rail | F                | F  | 1.20             | 1.22 | 4               | 4  | 9,632          | 9,750 | 58               | 95  |
| Maximum Marine/Minimum Rail | F                | F  | 1.21             | 1.22 | 4               | 4  | 9,640          | 9,782 | 66               | 127 |
| Reduced Harbor Fill         | F                | F  | 1.20             | 1.22 | 4               | 4  | 9,636          | 9,770 | 62               | 115 |

**12. I-238**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB†              | WB | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | E                | D  | 0.95             | 0.79 | 3               | 3  | 5,699          | 4,748 | 0                | 0  |
| Maximum Marine/Maximum Rail | E                | D  | 0.96             | 0.80 | 3               | 3  | 5,738          | 4,778 | 39               | 30 |
| Minimum Marine/Minimum Rail | E                | D  | 0.96             | 0.80 | 3               | 3  | 5,741          | 4,778 | 42               | 30 |
| Maximum Marine/Minimum Rail | E                | D  | 0.96             | 0.80 | 3               | 3  | 5,743          | 4,779 | 44               | 31 |
| Reduced Harbor Fill         | E                | D  | 0.96             | 0.80 | 3               | 3  | 5,738          | 4,778 | 39               | 30 |

† Freeway segment is excluded from compliance with Alameda County CMA Standards.

**Table J.8-2 (Continued)**  
**Freeway Level of Service Calculations - PM Peak Hour**

**13. I-580 East of I-238**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB               | WB | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | D                | D  | 0.89             | 0.81 | 5               | 5  | 8,888          | 8,147 | 0                | 0  |
| Maximum Marine/Maximum Rail | D                | D  | 0.89             | 0.82 | 5               | 5  | 8,927          | 8,176 | 39               | 29 |
| Minimum Marine/Minimum Rail | D                | D  | 0.89             | 0.82 | 5               | 5  | 8,930          | 8,178 | 42               | 31 |
| Maximum Marine/Minimum Rail | D                | D  | 0.89             | 0.82 | 5               | 5  | 8,932          | 8,178 | 44               | 31 |
| Reduced Harbor Fill         | D                | D  | 0.89             | 0.82 | 5               | 5  | 8,927          | 8,176 | 39               | 29 |

**14. I-580 West of I-238**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB               | WB | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | F                | D  | 1.01             | 0.86 | 4               | 4  | 8,058          | 6,887 | 0                | 0  |
| Maximum Marine/Maximum Rail | F                | D  | 1.01             | 0.86 | 4               | 4  | 8,058          | 6,887 | 0                | 0  |
| Minimum Marine/Minimum Rail | F                | D  | 1.01             | 0.86 | 4               | 4  | 8,060          | 6,887 | 2                | 0  |
| Maximum Marine/Minimum Rail | F                | D  | 1.01             | 0.86 | 4               | 4  | 8,058          | 6,887 | 0                | 0  |
| Reduced Harbor Fill         | F                | D  | 1.01             | 0.86 | 4               | 4  | 8,058          | 6,887 | 0                | 0  |

**15. I-580 East of I-980/SH 24**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB               | WB | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | F                | C  | 1.20             | 0.73 | 4               | 4  | 9,602          | 5,825 | 0                | 0  |
| Maximum Marine/Maximum Rail | F                | C  | 1.20             | 0.73 | 4               | 4  | 9,602          | 5,825 | 0                | 0  |
| Minimum Marine/Minimum Rail | F                | C  | 1.20             | 0.73 | 4               | 4  | 9,604          | 5,825 | 2                | 0  |
| Maximum Marine/Minimum Rail | F                | C  | 1.20             | 0.73 | 4               | 4  | 9,602          | 5,825 | 0                | 0  |
| Reduced Harbor Fill         | F                | C  | 1.20             | 0.73 | 4               | 4  | 9,602          | 5,825 | 0                | 0  |

**16. I-580 West of I-980/SH 24**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB†              | WB | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | F                | C  | 1.09             | 0.73 | 5               | 5  | 10,851         | 7,322 | 0                | 0  |
| Maximum Marine/Maximum Rail | F                | C  | 1.09             | 0.73 | 5               | 5  | 10,871         | 7,334 | 20               | 12 |
| Minimum Marine/Minimum Rail | F                | C  | 1.09             | 0.73 | 5               | 5  | 10,865         | 7,330 | 14               | 8  |
| Maximum Marine/Minimum Rail | F                | C  | 1.09             | 0.73 | 5               | 5  | 10,864         | 7,330 | 13               | 8  |
| Reduced Harbor Fill         | F                | C  | 1.09             | 0.73 | 5               | 5  | 10,871         | 7,334 | 20               | 12 |

**17. I-980**

| Alternative                 | Level of Service |    | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |     |
|-----------------------------|------------------|----|------------------|------|-----------------|----|----------------|-------|------------------|-----|
|                             | NB†              | SB | NB               | SB   | NB              | SB | NB             | SB    | NB               | SB  |
| No Project                  | E                | B  | 0.94             | 0.48 | 4               | 4  | 7,538          | 3,864 | 0                | 0   |
| Maximum Marine/Maximum Rail | E                | B  | 0.94             | 0.48 | 4               | 4  | 7,521          | 3,854 | -17              | -10 |
| Minimum Marine/Minimum Rail | E                | B  | 0.94             | 0.48 | 4               | 4  | 7,532          | 3,860 | -6               | -4  |
| Maximum Marine/Minimum Rail | E                | B  | 0.94             | 0.48 | 4               | 4  | 7,530          | 3,858 | -8               | -6  |
| Reduced Harbor Fill         | E                | B  | 0.94             | 0.48 | 4               | 4  | 7,521          | 3,854 | -17              | -10 |

**18. SH 24 East of I-580**

| Alternative                 | Level of Service |     | Volume/ Capacity |      | Number of Lanes |    | Traffic Volume |       | Change in Volume |    |
|-----------------------------|------------------|-----|------------------|------|-----------------|----|----------------|-------|------------------|----|
|                             | EB†              | WB† | EB               | WB   | EB              | WB | EB             | WB    | EB               | WB |
| No Project                  | F                | B   | 1.11             | 0.46 | 4               | 4  | 8,905          | 3,717 | 0                | 0  |
| Maximum Marine/Maximum Rail | F                | B   | 1.11             | 0.46 | 4               | 4  | 8,907          | 3,719 | 2                | 2  |
| Minimum Marine/Minimum Rail | F                | B   | 1.11             | 0.47 | 4               | 4  | 8,910          | 3,720 | 5                | 3  |
| Maximum Marine/Minimum Rail | F                | B   | 1.11             | 0.47 | 4               | 4  | 8,910          | 3,720 | 5                | 3  |
| Reduced Harbor Fill         | F                | B   | 1.11             | 0.46 | 4               | 4  | 8,908          | 3,719 | 3                | 2  |

† Freeway segment is excluded from compliance with Alameda County CMA Standards.



**Appendix J.9**  
**Vehicle Delay at Railroad Crossings**





**Table J.9-1**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Vehicle Delay at Railroad Crossings**  
**Summary of Project Alternatives**

| Crossing Street        | Gate Down Time (min./day) |                       |                       |                       |                     | Vehicular Delay (hours/day) |                       |                       |                       |                     |
|------------------------|---------------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------------|-----------------------|-----------------------|-----------------------|---------------------|
|                        | Project Alternative       |                       |                       |                       |                     | Project Alternative         |                       |                       |                       |                     |
|                        | No Action                 | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill | No Action                   | Max. Marine/Max. Rail | Min. Marine/Min. Rail | Max. Marine/Min. Rail | Reduced Harbor Fill |
| 1. Cutting Boulevard   | 44                        | 56                    | 47                    | 58                    | 58                  | 16.4                        | 23.0                  | 18.0                  | 23.9                  | 23.9                |
| 2. Gilman Street       | 46                        | 59                    | 49                    | 61                    | 61                  | 11.4                        | 16.3                  | 12.8                  | 16.9                  | 16.9                |
| 3. Camelia Street      | 46                        | 59                    | 49                    | 61                    | 61                  | 1.2                         | 1.7                   | 1.3                   | 1.8                   | 1.8                 |
| 4. Cedar Street        | 46                        | 59                    | 49                    | 61                    | 61                  | 2.2                         | 3.2                   | 2.5                   | 3.3                   | 3.3                 |
| 5. Virginia Street     | 46                        | 59                    | 49                    | 61                    | 61                  | 1.0                         | 1.5                   | 1.2                   | 1.5                   | 1.5                 |
| 6. Hearst Avenue       | 46                        | 59                    | 49                    | 61                    | 61                  | 3.8                         | 5.4                   | 4.2                   | 5.6                   | 5.6                 |
| 7. Addison Street      | 46                        | 59                    | 49                    | 61                    | 61                  | 1.2                         | 1.7                   | 1.3                   | 1.8                   | 1.8                 |
| 8. Bancroft Way        | 46                        | 59                    | 49                    | 61                    | 61                  | 1.2                         | 1.7                   | 1.3                   | 1.8                   | 1.8                 |
| 9. 67th Street         | 56                        | 72                    | 60                    | 74                    | 74                  | 1.7                         | 2.5                   | 2.0                   | 2.6                   | 2.6                 |
| 10. 66th Street        | 56                        | 72                    | 60                    | 74                    | 74                  | 1.7                         | 2.5                   | 2.0                   | 2.6                   | 2.6                 |
| 11. 65th Street        | 56                        | 72                    | 60                    | 74                    | 74                  | 2.3                         | 3.4                   | 2.7                   | 3.5                   | 3.5                 |
| 12. Market Street      | 70                        | 70                    | 70                    | 70                    | 70                  | 4.6                         | 4.6                   | 4.6                   | 4.6                   | 4.6                 |
| 13. M. L. King Blvd.   | 70                        | 70                    | 70                    | 70                    | 70                  | 0.4                         | 0.4                   | 0.4                   | 0.4                   | 0.4                 |
| 14. Clay Street        | 70                        | 70                    | 70                    | 70                    | 70                  | 2.1                         | 2.1                   | 2.1                   | 2.1                   | 2.1                 |
| 15. Washington Street* | 70                        | 70                    | 70                    | 70                    | 70                  | 0.8                         | 0.8                   | 0.8                   | 0.8                   | 0.8                 |
| 16. Broadway*          | 70                        | 70                    | 70                    | 70                    | 70                  | 16.1                        | 16.1                  | 16.1                  | 16.1                  | 16.1                |
| 17. Franklin Street*   | 70                        | 70                    | 70                    | 70                    | 70                  | 2.2                         | 2.2                   | 2.2                   | 2.2                   | 2.2                 |
| 18. Webster Street     | 70                        | 70                    | 70                    | 70                    | 70                  | 4.3                         | 4.3                   | 4.3                   | 4.3                   | 4.3                 |
| 19. Oak Street         | 70                        | 70                    | 70                    | 70                    | 70                  | 4.6                         | 4.6                   | 4.6                   | 4.6                   | 4.6                 |
| 20. 5th Avenue         | 29                        | 29                    | 29                    | 29                    | 29                  | 3.6                         | 3.6                   | 3.6                   | 3.6                   | 3.6                 |
| 21. 29th Avenue        | 19                        | 19                    | 19                    | 19                    | 19                  | 2.2                         | 2.2                   | 2.2                   | 2.2                   | 2.2                 |
| 22. Fruitvale Avenue   | 19                        | 19                    | 19                    | 19                    | 19                  | 5.3                         | 5.3                   | 5.3                   | 5.3                   | 5.3                 |
| 23. 37th Avenue        | 19                        | 19                    | 19                    | 19                    | 19                  | 0.3                         | 0.3                   | 0.3                   | 0.3                   | 0.3                 |
| Total Delay            |                           |                       |                       |                       |                     | 90.6                        | 109.4                 | 95.9                  | 111.7                 | 111.7               |

\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.  
Nolte and Associates 1996  
Dowling Associates 1996

**Table J.9-2**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Train Traffic At Roadway Crossings**  
**No Project Alternative**

| Crossing Street       | Number of Trains in Both Directions |     |           |      |             | Total | Train Speed (mph) |                       |
|-----------------------|-------------------------------------|-----|-----------|------|-------------|-------|-------------------|-----------------------|
|                       | Passenger *                         |     | Freight * |      | Switchers * |       | Passenger         | Freight/<br>Switchers |
|                       | 1200                                | 600 | 6000      | 1200 | 300         |       |                   |                       |
| 1. Cutting Boulevard  | 4                                   | 20  | 18        |      |             | 42    | 60                | 60                    |
| 2. Gilman Street      | 4                                   | 20  | 17        | 4    | 2           | 47    | 60                | 60                    |
| 3. Camelia Street     | 4                                   | 20  | 17        | 4    | 2           | 47    | 60                | 60                    |
| 4. Cedar Street       | 4                                   | 20  | 17        | 4    | 2           | 47    | 60                | 60                    |
| 5. Virginia Street    | 4                                   | 20  | 17        | 4    | 2           | 47    | 60                | 60                    |
| 6. Hearst Avenue      | 4                                   | 20  | 17        | 4    | 2           | 47    | 60                | 60                    |
| 7. Addison Street     | 4                                   | 20  | 17        | 4    | 2           | 47    | 60                | 60                    |
| 8. Bancroft Way       | 4                                   | 20  | 17        | 4    | 2           | 47    | 60                | 60                    |
| 9. 67th Street        | 4                                   | 20  | 17        | 4    | 2           | 47    | 45                | 45                    |
| 10. 66th Street       | 4                                   | 20  | 17        | 4    | 2           | 47    | 45                | 45                    |
| 11. 65th Street       | 4                                   | 20  | 17        | 4    | 2           | 47    | 45                | 45                    |
| 12. Market Street     | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 13. M. L. King Blvd.  | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 14. Clay Street       | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 15. Washington Street | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 16. Broadway          | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 17. Franklin Street   | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 18. Webster Street    | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 19. Oak Street        | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 20. 5th Avenue        | 2                                   | 10  | 4         | 4    |             | 20    | 40                | 20                    |
| 21. 29th Avenue       | 2                                   | 10  | 4         | 4    |             | 20    | 60                | 40                    |
| 22. Fruitvale Avenue  | 2                                   | 10  | 4         | 4    |             | 20    | 60                | 40                    |
| 23. 37th Avenue       | 2                                   | 10  | 4         | 4    |             | 20    | 60                | 40                    |

\* Values shown below train type represent the length of each train in feet.

Source: Nolte and Associates 1996

**Table J.9-3**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Gate Down Time At Roadway Crossings**  
**No Project Alternative**

| Crossing Street         | Gate Down Time Per Train (minutes) |     |           |      |             | Total Gate<br>Down Time<br>(min./day) |
|-------------------------|------------------------------------|-----|-----------|------|-------------|---------------------------------------|
|                         | Passenger *                        |     | Freight * |      | Switchers * |                                       |
|                         | 1200                               | 600 | 6000      | 1200 | 300         |                                       |
| 1. Cutting Boulevard    | 0.7                                | 0.6 | 1.6       | 0.0  | 0.0         | 44                                    |
| 2. Gilman Street        | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 46                                    |
| 3. Camelia Street       | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 46                                    |
| 4. Cedar Street         | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 46                                    |
| 5. Virginia Street      | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 46                                    |
| 6. Hearst Avenue        | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 46                                    |
| 7. Addison Street       | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 46                                    |
| 8. Bancroft Way         | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 46                                    |
| 9. 67th Street          | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 56                                    |
| 10. 66th Street         | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 56                                    |
| 11. 65th Street         | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 56                                    |
| 12. Market Street       | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 13. M. L. King Blvd.    | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 14. Clay Street         | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 15. Washington Street** | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 16. Broadway**          | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 17. Franklin Street**   | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 18. Webster Street      | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 19. Oak Street          | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 20. 5th Avenue          | 0.8                                | 0.7 | 3.9       | 1.2  | 0.0         | 29                                    |
| 21. 29th Avenue         | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                                    |
| 22. Fruitvale Avenue    | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                                    |
| 23. 37th Avenue         | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                                    |

\* Values shown below train type represent the length of each train in feet.

\*\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Source: Nolte and Associates 1996



**Table J.9-4**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Traffic Volumes at Railroad Crossings**  
**No Project Alternative**

| Crossing Street       | Jurisdiction | Average Daily Traffic for Year Traffic Was Counted | Year Traffic Was Counted | Average Daily Traffic (2010) |
|-----------------------|--------------|--|--------------------------|------------------------------|
| 1. Cutting Boulevard  | Richmond     | 26,892   | 1994                     | 31,270                       |
| 2. Gilman Street      | Berkeley     | 17,413   | 1986                     | 21,830                       |
| 3. Camelia Street     | Berkeley     |  | 1996 (Estimated Max.)    | 2,280                        |
| 4. Cedar Street       | Berkeley     | 3,413  | 1986                     | 4,280                        |
| 5. Virginia Street    | Berkeley     | 1,584  | 1986                     | 1,980                        |
| 6. Hearst Avenue      | Berkeley     | 5,758  | 1986                     | 7,220                        |
| 7. Addison Street     | Berkeley     |  | 1996 (Estimated Max.)    | 2,280                        |
| 8. Bancroft Way       | Berkeley     |  | 1996 (Estimated Max.)    | 2,280                        |
| 9. 67th Street        | Emeryville   |  | 1996 (Estimated Max.)    | 2,280                        |
| 10. 66th Street       | Emeryville   |  | 1996 (Estimated Max.)    | 2,280                        |
| 11. 65th Street       | Emeryville   |  | 1995                     | 3,080                        |
| 12. Market Street     | Oakland      | 3,655  | 1996                     | 3,920                        |
| 13. M. L. King Blvd.  | Oakland      | 309  | 1976                     | 360                          |
| 14. Clay Street       | Oakland      | 1,531  | 1977                     | 1,800                        |
| 15. Washington Street | Oakland      | 613  | 1976                     | 720                          |
| 16. Broadway          | Oakland      | 11,833   | 1978                     | 13,800                       |
| 17. Franklin Street   | Oakland      | 1,626  | 1976                     | 1,920                        |
| 18. Webster Street    | Oakland      | 3,111  | 1974                     | 3,690                        |
| 19. Oak Street        | Oakland      | 3,340  | 1976                     | 3,930                        |
| 20. 5th Avenue        | Oakland      | 6,224  | 1976                     | 7,330                        |
| 21. 29th Avenue       | Oakland      | 9,034  | 1990                     | 9,960                        |
| 22. Fruitvale Avenue  | Oakland      | 22,304   | 1993                     | 24,220                       |
| 23. 37th Avenue       | Oakland      | 1,070  | 1994                     | 1,160                        |

Sources: City Traffic/Planning staffs for the jurisdictions shown.

Note: Escalation factors were applied to escalate counts to 1996 estimated values as follows:

Cities of Richmond & Berkeley - 1% per year; City of Oakland 1/2% per year.

**Table J.9-5**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Vehicle Delay at Railroad Crossings**  
**No Project Alternative**

| Crossing Street        | Jurisdiction | Average<br>Daily Traffic<br>(2010) | Total Gate<br>Down Time<br>(min./day) | Vehicular<br>Delay<br>(hours/day) |
|------------------------|--------------|------------------------------------|---------------------------------------|-----------------------------------|
| 1. Cutting Boulevard   | Richmond     | 31,270                             | 44                                    | 16.4                              |
| 2. Gilman Street       | Berkeley     | 21,830                             | 46                                    | 11.4                              |
| 3. Camelia Street      | Berkeley     | 2,280                              | 46                                    | 1.2                               |
| 4. Cedar Street        | Berkeley     | 4,280                              | 46                                    | 2.2                               |
| 5. Virginia Street     | Berkeley     | 1,980                              | 46                                    | 1.0                               |
| 6. Hearst Avenue       | Berkeley     | 7,220                              | 46                                    | 3.8                               |
| 7. Addison Street      | Berkeley     | 2,280                              | 46                                    | 1.2                               |
| 8. Bancroft Way        | Berkeley     | 2,280                              | 46                                    | 1.2                               |
| 9. 67th Street         | Emeryville   | 2,280                              | 56                                    | 1.7                               |
| 10. 66th Street        | Emeryville   | 2,280                              | 56                                    | 1.7                               |
| 11. 65th Street        | Emeryville   | 3,080                              | 56                                    | 2.3                               |
| 12. Market Street      | Oakland      | 3,920                              | 70                                    | 4.6                               |
| 13. M. L. King Blvd.   | Oakland      | 360                                | 70                                    | 0.4                               |
| 14. Clay Street        | Oakland      | 1,800                              | 70                                    | 2.1                               |
| 15. Washington Street* | Oakland      | 720                                | 70                                    | 0.8                               |
| 16. Broadway*          | Oakland      | 13,800                             | 70                                    | 16.1                              |
| 17. Franklin Street*   | Oakland      | 1,920                              | 70                                    | 2.2                               |
| 18. Webster Street     | Oakland      | 3,690                              | 70                                    | 4.3                               |
| 19. Oak Street         | Oakland      | 3,930                              | 70                                    | 4.6                               |
| 20. 5th Avenue         | Oakland      | 7,330                              | 29                                    | 3.6                               |
| 21. 29th Avenue        | Oakland      | 9,960                              | 19                                    | 2.2                               |
| 22. Fruitvale Avenue   | Oakland      | 24,220                             | 19                                    | 5.3                               |
| 23. 37th Avenue        | Oakland      | 1,160                              | 19                                    | 0.3                               |

\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.

Nolte and Associates 1996

Dowling Associates 1996

**Table J.9-6**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Train Traffic At Roadway Crossings**  
**Maximum Marine/Maximum Rail Alternative**

| Crossing Street       | Number of Trains in Both Directions |     |           |      |             |       | Train Speed (mph) |                       |
|-----------------------|-------------------------------------|-----|-----------|------|-------------|-------|-------------------|-----------------------|
|                       | Passenger *                         |     | Freight * |      | Switchers * | Total | Passenger         | Freight/<br>Switchers |
|                       | 1200                                | 600 | 6000      | 1200 | 300         |       |                   |                       |
| 1. Cutting Boulevard  | 4                                   | 20  | 26        |      |             | 50    | 60                | 60                    |
| 2. Gilman Street      | 4                                   | 20  | 26        | 2    | 2           | 54    | 60                | 60                    |
| 3. Camelia Street     | 4                                   | 20  | 26        | 2    | 2           | 54    | 60                | 60                    |
| 4. Cedar Street       | 4                                   | 20  | 26        | 2    | 2           | 54    | 60                | 60                    |
| 5. Virginia Street    | 4                                   | 20  | 26        | 2    | 2           | 54    | 60                | 60                    |
| 6. Hearst Avenue      | 4                                   | 20  | 26        | 2    | 2           | 54    | 60                | 60                    |
| 7. Addison Street     | 4                                   | 20  | 26        | 2    | 2           | 54    | 60                | 60                    |
| 8. Bancroft Way       | 4                                   | 20  | 26        | 2    | 2           | 54    | 60                | 60                    |
| 9. 67th Street        | 4                                   | 20  | 26        | 2    | 2           | 54    | 45                | 45                    |
| 10. 66th Street       | 4                                   | 20  | 26        | 2    | 2           | 54    | 45                | 45                    |
| 11. 65th Street       | 4                                   | 20  | 26        | 2    | 2           | 54    | 45                | 45                    |
| 12. Market Street     | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 13. M. L. King Blvd.  | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 14. Clay Street       | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 15. Washington Street | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 16. Broadway          | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 17. Franklin Street   | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 18. Webster Street    | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 19. Oak Street        | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 20. 5th Avenue        | 2                                   | 10  | 4         | 4    |             | 20    | 40                | 20                    |
| 21. 29th Avenue       | 2                                   | 10  | 4         | 4    |             | 20    | 60                | 40                    |
| 22. Fruitvale Avenue  | 2                                   | 10  | 4         | 4    |             | 20    | 60                | 40                    |
| 23. 37th Avenue       | 2                                   | 10  | 4         | 4    |             | 20    | 60                | 40                    |

\* Values shown below train type represent the length of each train in feet.

Source: Nolte and Associates 1996

**Table J.9-7**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Gate Down Time At Roadway Crossings**  
**Maximum Marine/Maximum Rail Alternative**

| Crossing Street         | Gate Down Time Per Train (minutes) |     |           |      |             | Total Gate<br>Down Time<br>(min./day) |
|-------------------------|------------------------------------|-----|-----------|------|-------------|---------------------------------------|
|                         | Passenger *                        |     | Freight * |      | Switchers * |                                       |
|                         | 1200                               | 600 | 6000      | 1200 | 300         |                                       |
| 1. Cutting Boulevard    | 0.7                                | 0.6 | 1.6       | 0.0  | 0.0         | 56                                    |
| 2. Gilman Street        | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 59                                    |
| 3. Camelia Street       | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 59                                    |
| 4. Cedar Street         | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 59                                    |
| 5. Virginia Street      | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 59                                    |
| 6. Hearst Avenue        | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 59                                    |
| 7. Addison Street       | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 59                                    |
| 8. Bancroft Way         | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 59                                    |
| 9. 67th Street          | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 72                                    |
| 10. 66th Street         | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 72                                    |
| 11. 65th Street         | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 72                                    |
| 12. Market Street       | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 13. M. L. King Blvd.    | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 14. Clay Street         | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 15. Washington Street** | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 16. Broadway**          | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 17. Franklin Street**   | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 18. Webster Street      | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 19. Oak Street          | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 20. 5th Avenue          | 0.8                                | 0.7 | 3.9       | 1.2  | 0.0         | 29                                    |
| 21. 29th Avenue         | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                                    |
| 22. Fruitvale Avenue    | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                                    |
| 23. 37th Avenue         | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                                    |

\* Values shown below train type represent the length of each train in feet.

\*\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Source: Nolte and Associates 1996



**Table J.9-8**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Vehicle Delay at Railroad Crossings**  
**Maximum Marine/Maximum Rail Alternative**

| Crossing Street        | Jurisdiction | Average<br>Daily Traffic<br>(2010) | Total Gate<br>Down Time<br>(min./day) | Vehicular<br>Delay<br>(hours/day) |
|------------------------|--------------|------------------------------------|---------------------------------------|-----------------------------------|
| 1. Cutting Boulevard   | Richmond     | 31,270                             | 56                                    | 23.0                              |
| 2. Gilman Street       | Berkeley     | 21,830                             | 59                                    | 16.3                              |
| 3. Camelia Street      | Berkeley     | 2,280                              | 59                                    | 1.7                               |
| 4. Cedar Street        | Berkeley     | 4,280                              | 59                                    | 3.2                               |
| 5. Virginia Street     | Berkeley     | 1,980                              | 59                                    | 1.5                               |
| 6. Hearst Avenue       | Berkeley     | 7,220                              | 59                                    | 5.4                               |
| 7. Addison Street      | Berkeley     | 2,280                              | 59                                    | 1.7                               |
| 8. Bancroft Way        | Berkeley     | 2,280                              | 59                                    | 1.7                               |
| 9. 67th Street         | Emeryville   | 2,280                              | 72                                    | 2.5                               |
| 10. 66th Street        | Emeryville   | 2,280                              | 72                                    | 2.5                               |
| 11. 65th Street        | Emeryville   | 3,080                              | 72                                    | 3.4                               |
| 12. Market Street      | Oakland      | 3,920                              | 70                                    | 4.6                               |
| 13. M. L. King Blvd.   | Oakland      | 360                                | 70                                    | 0.4                               |
| 14. Clay Street        | Oakland      | 1,800                              | 70                                    | 2.1                               |
| 15. Washington Street* | Oakland      | 720                                | 70                                    | 0.8                               |
| 16. Broadway*          | Oakland      | 13,800                             | 70                                    | 16.1                              |
| 17. Franklin Street*   | Oakland      | 1,920                              | 70                                    | 2.2                               |
| 18. Webster Street     | Oakland      | 3,690                              | 70                                    | 4.3                               |
| 19. Oak Street         | Oakland      | 3,930                              | 70                                    | 4.6                               |
| 20. 5th Avenue         | Oakland      | 7,330                              | 29                                    | 3.6                               |
| 21. 29th Avenue        | Oakland      | 9,960                              | 19                                    | 2.2                               |
| 22. Fruitvale Avenue   | Oakland      | 24,220                             | 19                                    | 5.3                               |
| 23. 37th Avenue        | Oakland      | 1,160                              | 19                                    | 0.3                               |

\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.

Nolte and Associates 1996

Dowling Associates 1996

**Table J.9-9**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Train Traffic At Roadway Crossings**  
**Minimum Marine/Minimum Rail Alternative**

| Crossing Street       | Number of Trains in Both Directions |     |           |      |             |       | Train Speed (mph) |                       |
|-----------------------|-------------------------------------|-----|-----------|------|-------------|-------|-------------------|-----------------------|
|                       | Passenger *                         |     | Freight * |      | Switchers * | Total | Passenger         | Freight/<br>Switchers |
|                       | 1200                                | 600 | 6000      | 1200 | 300         |       |                   |                       |
| 1. Cutting Boulevard  | 4                                   | 20  | 20        |      |             | 44    | 60                | 60                    |
| 2. Gilman Street      | 4                                   | 20  | 20        | 2    | 2           | 48    | 60                | 60                    |
| 3. Camelia Street     | 4                                   | 20  | 20        | 2    | 2           | 48    | 60                | 60                    |
| 4. Cedar Street       | 4                                   | 20  | 20        | 2    | 2           | 48    | 60                | 60                    |
| 5. Virginia Street    | 4                                   | 20  | 20        | 2    | 2           | 48    | 60                | 60                    |
| 6. Hearst Avenue      | 4                                   | 20  | 20        | 2    | 2           | 48    | 60                | 60                    |
| 7. Addison Street     | 4                                   | 20  | 20        | 2    | 2           | 48    | 60                | 60                    |
| 8. Bancroft Way       | 4                                   | 20  | 20        | 2    | 2           | 48    | 60                | 60                    |
| 9. 67th Street        | 4                                   | 20  | 20        | 2    | 2           | 48    | 45                | 45                    |
| 10. 66th Street       | 4                                   | 20  | 20        | 2    | 2           | 48    | 45                | 45                    |
| 11. 65th Street       | 4                                   | 20  | 20        | 2    | 2           | 48    | 45                | 45                    |
| 12. Market Street     | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 13. M. L. King Blvd.  | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 14. Clay Street       | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 15. Washington Street | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 16. Broadway          | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 17. Franklin Street   | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 18. Webster Street    | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 19. Oak Street        | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 20. 5th Avenue        | 2                                   | 10  | 4         | 4    |             | 20    | 40                | 20                    |
| 21. 29th Avenue       | 2                                   | 10  | 4         | 4    |             | 20    | 60                | 40                    |
| 22. Fruitvale Avenue  | 2                                   | 10  | 4         | 4    |             | 20    | 60                | 40                    |
| 23. 37th Avenue       | 2                                   | 10  | 4         | 4    |             | 20    | 60                | 40                    |

\* Values shown below train type represent the length of each train in feet.

Source: Nolte and Associates 1996

**Table J.9-10**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Gate Down Time At Roadway Crossings**  
**Minimum Marine/Minimum Rail Alternative**

| Crossing Street         | Gate Down Time Per Train (minutes) |     |           |      |             | Total Gate Down Time (min./day) |
|-------------------------|------------------------------------|-----|-----------|------|-------------|---------------------------------|
|                         | Passenger *                        |     | Freight * |      | Switchers * |                                 |
|                         | 1200                               | 600 | 6000      | 1200 | 300         |                                 |
| 1. Cutting Boulevard    | 0.7                                | 0.6 | 1.6       | 0.0  | 0.0         | 47                              |
| 2. Gilman Street        | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 49                              |
| 3. Camelia Street       | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 49                              |
| 4. Cedar Street         | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 49                              |
| 5. Virginia Street      | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 49                              |
| 6. Hearst Avenue        | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 49                              |
| 7. Addison Street       | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 49                              |
| 8. Bancroft Way         | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 49                              |
| 9. 67th Street          | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 60                              |
| 10. 66th Street         | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 60                              |
| 11. 65th Street         | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 60                              |
| 12. Market Street       | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 13. M. L. King Blvd.    | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 14. Clay Street         | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 15. Washington Street** | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 16. Broadway**          | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 17. Franklin Street**   | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 18. Webster Street      | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 19. Oak Street          | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 20. 5th Avenue          | 0.8                                | 0.7 | 3.9       | 1.2  | 0.0         | 29                              |
| 21. 29th Avenue         | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                              |
| 22. Fruitvale Avenue    | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                              |
| 23. 37th Avenue         | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                              |

\* Values shown below train type represent the length of each train in feet.

\*\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Source: Nolte and Associates 1996

**Table J.9-11**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Vehicle Delay at Railroad Crossings**  
**Minimum Marine/Minimum Rail Alternative**

| Crossing Street        | Jurisdiction | Average<br>Daily Traffic<br>(2010) | Total Gate<br>Down Time<br>(min./day) | Vehicular<br>Delay<br>(hours/day) |
|------------------------|--------------|------------------------------------|---------------------------------------|-----------------------------------|
| 1. Cutting Boulevard   | Richmond     | 31,270                             | 47                                    | 18.0                              |
| 2. Gilman Street       | Berkeley     | 21,830                             | 49                                    | 12.8                              |
| 3. Camelia Street      | Berkeley     | 2,280                              | 49                                    | 1.3                               |
| 4. Cedar Street        | Berkeley     | 4,280                              | 49                                    | 2.5                               |
| 5. Virginia Street     | Berkeley     | 1,980                              | 49                                    | 1.2                               |
| 6. Hearst Avenue       | Berkeley     | 7,220                              | 49                                    | 4.2                               |
| 7. Addison Street      | Berkeley     | 2,280                              | 49                                    | 1.3                               |
| 8. Bancroft Way        | Berkeley     | 2,280                              | 49                                    | 1.3                               |
| 9. 67th Street         | Emeryville   | 2,280                              | 60                                    | 2.0                               |
| 10. 66th Street        | Emeryville   | 2,280                              | 60                                    | 2.0                               |
| 11. 65th Street        | Emeryville   | 3,080                              | 60                                    | 2.7                               |
| 12. Market Street      | Oakland      | 3,920                              | 70                                    | 4.6                               |
| 13. M. L. King Blvd.   | Oakland      | 360                                | 70                                    | 0.4                               |
| 14. Clay Street        | Oakland      | 1,800                              | 70                                    | 2.1                               |
| 15. Washington Street* | Oakland      | 720                                | 70                                    | 0.8                               |
| 16. Broadway*          | Oakland      | 13,800                             | 70                                    | 16.1                              |
| 17. Franklin Street*   | Oakland      | 1,920                              | 70                                    | 2.2                               |
| 18. Webster Street     | Oakland      | 3,690                              | 70                                    | 4.3                               |
| 19. Oak Street         | Oakland      | 3,930                              | 70                                    | 4.6                               |
| 20. 5th Avenue         | Oakland      | 7,330                              | 29                                    | 3.6                               |
| 21. 29th Avenue        | Oakland      | 9,960                              | 19                                    | 2.2                               |
| 22. Fruitvale Avenue   | Oakland      | 24,220                             | 19                                    | 5.3                               |
| 23. 37th Avenue        | Oakland      | 1,160                              | 19                                    | 0.3                               |

\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.

Nolte and Associates 1996

Dowling Associates 1996



**Table J.9-12**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Train Traffic At Roadway Crossings**  
**Maximum Marine/Minimum Rail Alternative**

| Crossing Street       | Number of Trains in Both Directions |     |           |      |             |       | Train Speed (mph) |                       |
|-----------------------|-------------------------------------|-----|-----------|------|-------------|-------|-------------------|-----------------------|
|                       | Passenger *                         |     | Freight * |      | Switchers * | Total | Passenger         | Freight/<br>Switchers |
|                       | 1200                                | 600 | 6000      | 1200 | 300         |       |                   |                       |
| 1. Cutting Boulevard  | 4                                   | 20  | 27        |      |             | 51    | 60                | 60                    |
| 2. Gilman Street      | 4                                   | 20  | 27        | 2    | 2           | 55    | 60                | 60                    |
| 3. Camelia Street     | 4                                   | 20  | 27        | 2    | 2           | 55    | 60                | 60                    |
| 4. Cedar Street       | 4                                   | 20  | 27        | 2    | 2           | 55    | 60                | 60                    |
| 5. Virginia Street    | 4                                   | 20  | 27        | 2    | 2           | 55    | 60                | 60                    |
| 6. Hearst Avenue      | 4                                   | 20  | 27        | 2    | 2           | 55    | 60                | 60                    |
| 7. Addison Street     | 4                                   | 20  | 27        | 2    | 2           | 55    | 60                | 60                    |
| 8. Bancroft Way       | 4                                   | 20  | 27        | 2    | 2           | 55    | 60                | 60                    |
| 9. 67th Street        | 4                                   | 20  | 27        | 2    | 2           | 55    | 45                | 45                    |
| 10. 66th Street       | 4                                   | 20  | 27        | 2    | 2           | 55    | 45                | 45                    |
| 11. 65th Street       | 4                                   | 20  | 27        | 2    | 2           | 55    | 45                | 45                    |
| 12. Market Street     | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 13. M. L. King Blvd.  | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 14. Clay Street       | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 15. Washington Street | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 16. Broadway          | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 17. Franklin Street   | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 18. Webster Street    | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 19. Oak Street        | 10                                  | 30  | 4         | 4    |             | 48    | 15                | 15                    |
| 20. 5th Avenue        | 2                                   | 10  | 4         | 4    |             | 20    | 40                | 20                    |
| 21. 29th Avenue       | 2                                   | 10  | 4         | 4    |             | 20    | 60                | 40                    |
| 22. Fruitvale Avenue  | 2                                   | 10  | 4         | 4    |             | 20    | 60                | 40                    |
| 23. 37th Avenue       | 2                                   | 10  | 4         | 4    |             | 20    | 60                | 40                    |

\* Values shown below train type represent the length of each train in feet.

Source: Nolte and Associates 1996

**Table J.9-13**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Gate Down Time At Roadway Crossings**  
**Maximum Marine/Minimum Rail Alternative**

| Crossing Street         | Gate Down Time Per Train (minutes) |     |           |      |             | Total Gate<br>Down Time<br>(min./day) |
|-------------------------|------------------------------------|-----|-----------|------|-------------|---------------------------------------|
|                         | Passenger *                        |     | Freight * |      | Switchers * |                                       |
|                         | 1200                               | 600 | 6000      | 1200 | 300         |                                       |
| 1. Cutting Boulevard    | 0.7                                | 0.6 | 1.6       | 0.0  | 0.0         | 58                                    |
| 2. Gilman Street        | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                                    |
| 3. Camelia Street       | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                                    |
| 4. Cedar Street         | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                                    |
| 5. Virginia Street      | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                                    |
| 6. Hearst Avenue        | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                                    |
| 7. Addison Street       | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                                    |
| 8. Bancroft Way         | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                                    |
| 9. 67th Street          | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 74                                    |
| 10. 66th Street         | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 74                                    |
| 11. 65th Street         | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 74                                    |
| 12. Market Street       | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 13. M. L. King Blvd.    | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 14. Clay Street         | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 15. Washington Street** | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 16. Broadway**          | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 17. Franklin Street**   | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 18. Webster Street      | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 19. Oak Street          | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                                    |
| 20. 5th Avenue          | 0.8                                | 0.7 | 3.9       | 1.2  | 0.0         | 29                                    |
| 21. 29th Avenue         | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                                    |
| 22. Fruitvale Avenue    | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                                    |
| 23. 37th Avenue         | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                                    |

\* Values shown below train type represent the length of each train in feet.

\*\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Source: Nolte and Associates 1996

**Table J.9-14**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Vehicle Delay at Railroad Crossings**  
**Maximum Marine/Minimum Rail Alternative**

| Crossing Street        | Jurisdiction | Average<br>Daily Traffic<br>(2010) | Total Gate<br>Down Time<br>(min./day) | Vehicular<br>Delay<br>(hours/day) |
|------------------------|--------------|------------------------------------|---------------------------------------|-----------------------------------|
| 1. Cutting Boulevard   | Richmond     | 31,270                             | 58                                    | 23.9                              |
| 2. Gilman Street       | Berkeley     | 21,830                             | 61                                    | 16.9                              |
| 3. Camelia Street      | Berkeley     | 2,280                              | 61                                    | 1.8                               |
| 4. Cedar Street        | Berkeley     | 4,280                              | 61                                    | 3.3                               |
| 5. Virginia Street     | Berkeley     | 1,980                              | 61                                    | 1.5                               |
| 6. Hearst Avenue       | Berkeley     | 7,220                              | 61                                    | 5.6                               |
| 7. Addison Street      | Berkeley     | 2,280                              | 61                                    | 1.8                               |
| 8. Bancroft Way        | Berkeley     | 2,280                              | 61                                    | 1.8                               |
| 9. 67th Street         | Emeryville   | 2,280                              | 74                                    | 2.6                               |
| 10. 66th Street        | Emeryville   | 2,280                              | 74                                    | 2.6                               |
| 11. 65th Street        | Emeryville   | 3,080                              | 74                                    | 3.5                               |
| 12. Market Street      | Oakland      | 3,920                              | 70                                    | 4.6                               |
| 13. M. L. King Blvd.   | Oakland      | 360                                | 70                                    | 0.4                               |
| 14. Clay Street        | Oakland      | 1,800                              | 70                                    | 2.1                               |
| 15. Washington Street* | Oakland      | 720                                | 70                                    | 0.8                               |
| 16. Broadway*          | Oakland      | 13,800                             | 70                                    | 16.1                              |
| 17. Franklin Street*   | Oakland      | 1,920                              | 70                                    | 2.2                               |
| 18. Webster Street     | Oakland      | 3,690                              | 70                                    | 4.3                               |
| 19. Oak Street         | Oakland      | 3,930                              | 70                                    | 4.6                               |
| 20. 5th Avenue         | Oakland      | 7,330                              | 29                                    | 3.6                               |
| 21. 29th Avenue        | Oakland      | 9,960                              | 19                                    | 2.2                               |
| 22. Fruitvale Avenue   | Oakland      | 24,220                             | 19                                    | 5.3                               |
| 23. 37th Avenue        | Oakland      | 1,160                              | 19                                    | 0.3                               |

\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Sources: City Traffic/Planning staffs for the jurisdictions shown.

Nolte and Associates 1996

Dowling Associates 1996

Table J.9-15  
FISCO/Port Vision 2000 EIS/EIR  
Train Traffic At Roadway Crossings  
Reduced Harbor Fill Alternative

| Crossing Street       | Number of Trains in Both Directions |     |           |      |             | Total | Train Speed Imp. |                   |
|-----------------------|-------------------------------------|-----|-----------|------|-------------|-------|------------------|-------------------|
|                       | Passenger *                         |     | Freight * |      | Switchers * |       | Passenger        | Freight Switchers |
|                       | 1200                                | 800 | 6000      | 1200 | 300         |       |                  |                   |
| 1. Outting Boulevard  | 4                                   | 20  | 27        |      |             | 51    | 60               | 60                |
| 2. Gilman Street      | 4                                   | 20  | 27        | 2    | 2           | 55    | 60               | 60                |
| 3. Carriera Street    | 4                                   | 20  | 27        | 2    | 2           | 55    | 60               | 60                |
| 4. Cedar Street       | 4                                   | 20  | 27        | 2    | 2           | 55    | 60               | 60                |
| 5. Virginia Street    | 4                                   | 20  | 27        | 2    | 2           | 55    | 60               | 60                |
| 6. Hearst Avenue      | 4                                   | 20  | 27        | 2    | 2           | 55    | 60               | 60                |
| 7. Addison Street     | 4                                   | 20  | 27        | 2    | 2           | 55    | 60               | 60                |
| 8. Bancroft Way       | 4                                   | 20  | 27        | 2    | 2           | 55    | 60               | 60                |
| 9. 87th Street        | 4                                   | 20  | 27        | 2    | 2           | 55    | 45               | 45                |
| 10. 86th Street       | 4                                   | 20  | 27        | 2    | 2           | 55    | 45               | 45                |
| 11. 85th Street       | 4                                   | 20  | 27        | 2    | 2           | 55    | 45               | 45                |
| 12. Market Street     | 10                                  | 30  | 4         | 4    |             | 48    | 15               | 15                |
| 13. M. L. King Blvd   | 10                                  | 30  | 4         | 4    |             | 48    | 15               | 15                |
| 14. Clay Street       | 10                                  | 30  | 4         | 4    |             | 48    | 15               | 15                |
| 15. Washington Street | 10                                  | 30  | 4         | 4    |             | 48    | 15               | 15                |
| 16. Broadway          | 10                                  | 30  | 4         | 4    |             | 48    | 15               | 15                |
| 17. Franklin Street   | 10                                  | 30  | 4         | 4    |             | 48    | 15               | 15                |
| 18. Webster Street    | 10                                  | 30  | 4         | 4    |             | 48    | 15               | 15                |
| 19. Oak Street        | 10                                  | 30  | 4         | 4    |             | 48    | 15               | 15                |
| 20. 5th Avenue        | 2                                   | 10  | 4         | 4    |             | 20    | 40               | 20                |
| 21. 29th Avenue       | 2                                   | 10  | 4         | 4    |             | 20    | 60               | 40                |
| 22. Futaba Avenue     | 2                                   | 10  | 4         | 4    |             | 20    | 60               | 40                |
| 23. 37th Avenue       | 2                                   | 10  | 4         | 4    |             | 20    | 60               | 40                |

\* Values shown below train type represent the length of each train in feet

Source: Ivona and Associates 1996



**Table J.9-16**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Gate Down Time At Roadway Crossings**  
**Reduced Harbor Fill Alternative**

| Crossing Street         | Gate Down Time Per Train (minutes) |     |           |      |             | Total Gate Down Time (min./day) |
|-------------------------|------------------------------------|-----|-----------|------|-------------|---------------------------------|
|                         | Passenger *                        |     | Freight * |      | Switchers * |                                 |
|                         | 1200                               | 600 | 6000      | 1200 | 300         |                                 |
| 1. Cutting Boulevard    | 0.7                                | 0.6 | 1.6       | 0.0  | 0.0         | 58                              |
| 2. Gilman Street        | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                              |
| 3. Camelia Street       | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                              |
| 4. Cedar Street         | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                              |
| 5. Virginia Street      | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                              |
| 6. Hearst Avenue        | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                              |
| 7. Addison Street       | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                              |
| 8. Bancroft Way         | 0.7                                | 0.6 | 1.6       | 0.7  | 0.6         | 61                              |
| 9. 67th Street          | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 74                              |
| 10. 66th Street         | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 74                              |
| 11. 65th Street         | 0.8                                | 0.7 | 2.0       | 0.8  | 0.6         | 74                              |
| 12. Market Street       | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 13. M. L. King Blvd.    | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 14. Clay Street         | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 15. Washington Street** | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 16. Broadway**          | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 17. Franklin Street**   | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 18. Webster Street      | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 19. Oak Street          | 1.4                                | 1.0 | 5.0       | 1.4  | 0.0         | 70                              |
| 20. 5th Avenue          | 0.8                                | 0.7 | 3.9       | 1.2  | 0.0         | 29                              |
| 21. 29th Avenue         | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                              |
| 22. Fruitvale Avenue    | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                              |
| 23. 37th Avenue         | 0.7                                | 0.6 | 2.2       | 0.8  | 0.0         | 19                              |

\* Values shown below train type represent the length of each train in feet.

\*\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

Source: Nolte and Associates 1996

**Table J.9-17**  
**FISCO/Port Vision 2000 EIS/EIR**  
**Vehicle Delay at Railroad Crossings**  
**Reduced Harbor Fill Alternative**

| Crossing Street        | Jurisdiction | Average<br>Daily Traffic<br>(2010) | Total Gate<br>Down Time<br>(min./day) | Vehicular<br>Delay<br>(hours/day) |
|------------------------|--------------|------------------------------------|---------------------------------------|-----------------------------------|
| 1. Cutting Boulevard   | Richmond     | 31,270                             | 58                                    | 23.9                              |
| 2. Gilman Street       | Berkeley     | 21,830                             | 61                                    | 16.9                              |
| 3. Camelia Street      | Berkeley     | 2,280                              | 61                                    | 1.8                               |
| 4. Cedar Street        | Berkeley     | 4,280                              | 61                                    | 3.3                               |
| 5. Virginia Street     | Berkeley     | 1,980                              | 61                                    | 1.5                               |
| 6. Hearst Avenue       | Berkeley     | 7,220                              | 61                                    | 5.6                               |
| 7. Addison Street      | Berkeley     | 2,280                              | 61                                    | 1.8                               |
| 8. Bancroft Way        | Berkeley     | 2,280                              | 61                                    | 1.8                               |
| 9. 67th Street         | Emeryville   | 2,280                              | 74                                    | 2.6                               |
| 10. 66th Street        | Emeryville   | 2,280                              | 74                                    | 2.6                               |
| 11. 65th Street        | Emeryville   | 3,080                              | 74                                    | 3.5                               |
| 12. Market Street      | Oakland      | 3,920                              | 70                                    | 4.6                               |
| 13. M. L. King Blvd.   | Oakland      | 360                                | 70                                    | 0.4                               |
| 14. Clay Street        | Oakland      | 1,800                              | 70                                    | 2.1                               |
| 15. Washington Street* | Oakland      | 720                                | 70                                    | 0.8                               |
| 16. Broadway*          | Oakland      | 13,800                             | 70                                    | 16.1                              |
| 17. Franklin Street*   | Oakland      | 1,920                              | 70                                    | 2.2                               |
| 18. Webster Street     | Oakland      | 3,690                              | 70                                    | 4.3                               |
| 19. Oak Street         | Oakland      | 3,930                              | 70                                    | 4.6                               |
| 20. 5th Avenue         | Oakland      | 7,330                              | 29                                    | 3.6                               |
| 21. 29th Avenue        | Oakland      | 9,960                              | 19                                    | 2.2                               |
| 22. Fruitvale Avenue   | Oakland      | 24,220                             | 19                                    | 5.3                               |
| 23. 37th Avenue        | Oakland      | 1,160                              | 19                                    | 0.3                               |

\* Gate down time is reported although there are no gates present at these crossings; the reported gate down time is used as a surrogate for delay to motorists at the crossing.

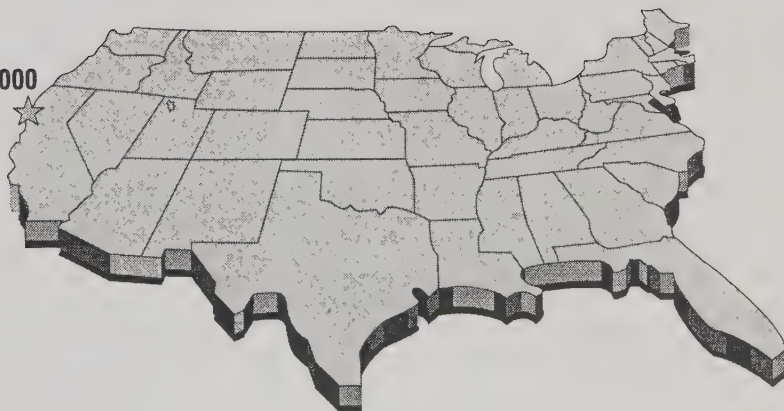
Sources: City Traffic/Planning staffs for the jurisdictions shown.

Nolte and Associates 1996

Dowling Associates 1996

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## APPENDIX K NOISE



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K-1: SUMMARY OF NOISE LIMITS ESTABLISHED IN THE OAKLAND NOISE ORDINANCES

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# Appendix K

## Noise

**Table K-1**  
Summary of Noise Limits Established in the Oakland Noise Ordinances

| Noise Source  | Affected Properties  | Time Period  | Specified or Equivalent Noise Limits |
|---|--|--------------|--------------------------------------|
| Construction and demolition activities lasting less than 10 days                  | Residential land uses, on weekdays   | 7 am - 7 pm  | 80 dBA, maximum                      |
|   |  | 7 pm - 7 am  | 65 dBA maximum; 50 dBA, 1-hr Leq     |
|   | Residential land uses, on weekends and federal holidays land uses, on weekdays | 9 am - 8 pm  | 65 dBA, maximum                      |
|   |  | 8 pm - 9 am  | 65 dBA maximum; 50 dBA, 1-hr Leq     |
| Construction and demolition activities lasting 10 days or more                    | Commercial and Industrial land uses on weekdays                                | 7 am - 7 pm  | 85 dBA, maximum                      |
|   |  | 7 pm - 7 am  | 85 dBA maximum; 70 dBA, 1-hr Leq     |
|   | Commercial and Industrial land uses, on weekends and federal holidays          | 9 am - 8 pm  | 70 dBA, maximum                      |
|   |  | 8 pm - 9 am  | 85 dBA maximum; 70 dBA, 1-hr Leq     |
| Residential air conditioning units installed before June 11, 1996                 | Residential land uses, on weekdays   | 7 am - 7 pm  | 65 dBA, maximum                      |
|   |  | 7 pm - 7 am  | 65 dBA maximum; 50 dBA, 1-hr Leq     |
|   | Residential land uses, on weekends and federal holidays                        | 9 am - 8 pm  | 55 dBA, maximum                      |
|   |  | 8 pm - 9 am  | 65 dBA maximum; 50 dBA, 1-hr Leq     |
| Residential air conditioning units installed after June 11, 1996                  | Commercial and industrial land uses, on weekdays                               | 7 am - 7 pm  | 70 dBA, maximum                      |
|   |  | 7 pm - 7 am  | 85 dBA maximum; 70 dBA, 1-hr Leq     |
|   | Commercial and industrial land uses, on weekends and federal holidays          | 9 am - 8 pm  | 60 dBA, maximum                      |
|   |  | 8 pm - 9 am  | 85 dBA maximum; 70 dBA, 1-hr Leq     |
| Enclosed commercial refrigeration units within 200 feet of residential properties | All properties   | Any time     | 55 dBA, maximum                      |
|   |  | Any time     | 50 dBA, maximum                      |
| Enclosed commercial refrigeration units within 200 feet of residential properties | Residential land uses  | 10 pm - 7 am | 60 dBA, maximum outside enclosure    |
|   |  |              |                                      |

| Noise Source  | Affected Properties                                  | Time Period Specified or Equivalent Noise Limits |  |
|---|--|--|--|
| Other stationary or mobile commercial refrigeration units   | Residential and Civic land uses                      | 7 am - 10 pm                                     | 80 dBA maximum; 65 dBA, 1-hr Leq                               |
|   |  | 10 pm - 7 am                                     | 65 dBA maximum; 50 dBA, 1-hr Leq                               |
|   | Commercial land uses                                 | Any time   | 85 dBA maximum; 70 dBA, 1-hr Leq                               |
|   | Manufacturing, Agriculture, and Extractive land uses | Any time   | 90 dBA maximum; 75 dBA, 1-hr Leq                               |
| Enclosed commercial ventilation exhaust systems within 200 feet of residential properties                       | Residential land uses                                | 10 pm - 7 am                                     | 60 dBA, maximum outside enclosure                              |
| Other commercial exhaust ventilation systems  | Residential and Civic land uses                      | 7 am - 10 pm                                     | 80 dBA maximum; 65 dBA, 1-hr Leq                               |
|   |  | 10 pm - 7 am                                     | 65 dBA maximum; 50 dBA, 1-hr Leq                               |
|   | Commercial land uses                                 | Any time   | 85 dBA maximum; 70 dBA, 1-hr Leq                               |
|   | Manufacturing, Agriculture, and Extractive land uses | Any time   | 90 dBA maximum; 75 dBA, 1-hr Leq                               |
| Sound amplification equipment (including portable or car audio equipment) operated in any park without a permit | Parks and adjacent property                          | Any time   | Audible at a distance of 50 feet or more from the noise source |
| Sound amplification equipment operated in any park under terms of a valid permit                                | Adjacent to park boundaries                          | Any time   | 80 dBA, maximum  |
| Testing of stationary alarms or other emergency signaling devices   |  | 7 am - 7 pm                                      | No more than 60 seconds  |
|   |  | 7 pm - 7 am                                      | Prohibited   |
| Testing of complete emergency response systems including signaling devices                                      |  | 7 am - 10 pm                                     | No more than once each month                                   |
|   |  | 10 pm - 7 am                                     | Prohibited   |
| Activated burglar and fire alarms (including car alarms)  |  | Any time   | Must be deactivated within 15 minutes                          |
| Stationary non-emergency signaling devices, bells, whistles, etc. (excluding devices at churches and schools)   |  | Any time   | No more than 10 seconds in any hour                            |

| Noise Source  | Affected Properties                                  | Time Period  | Specified or Equivalent Noise Limits  |
|---|--|--------------|---|
| Loading and unloading activities  | Residential land uses                                | 9 pm - 6 am  | Must not create a noise disturbance or exceed general noise limits in the Oakland Planning Code |
| Domestic power tools and machinery  | Any land use   | 9 pm - 6 am  | Must not create a noise disturbance or exceed general noise limits in the Oakland Planning Code |
| Noise sources not specifically covered by other limits (general Planning Code limits) | Residential and Civic land uses                      | 7 am - 10 pm | 80 dBA maximum; 65 dBA, 1-hr Leq  |
|   |  | 10 pm - 7 am | 65 dBA maximum; 50 dBA, 1-hr Leq  |
|   | Commercial land uses                                 | Any time     | 85 dBA maximum; 70 dBA, 1-hr Leq  |
|   | Manufacturing, Agriculture, and Extractive land uses | Any time     | 90 dBA maximum; 75 dBA, 1-hr Leq  |

Note: Oakland Ordinance 11894 also contains general prohibitions against excessive or annoying noise and vibration. Federal and state law generally preempt local regulation of traffic, rail, and aircraft noise.

Source: City of Oakland Ordinances 11893, 11894, and 11895.



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## APPENDIX L HAZARDOUS WASTE AND MATERIALS

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**Table L-1**  
**1995 FISCO Hazardous Materials Inventory**

| Parcel No. | Building No. | Material Category           | Maximum Quantity (pounds) |
|------------|--------------|-----------------------------|---------------------------|
| 511D       | 511D         | fuel, diesel                | 83,967                    |
| 511D       | 511D         | fuel, unleaded gasoline     | 92,463                    |
| 320        | 321          | detergents                  | 200                       |
| 511        | 511          | cleaners                    | 1,377                     |
|            |              | deodorizers                 | 459                       |
| 123        | 123W         | acetylene                   | 368                       |
|            |              | antifreeze                  | 1,027                     |
|            |              | hydraulic fluid             | 108                       |
|            |              | solvents                    | 860                       |
|            |              | lubricants                  | 890                       |
| 123        | 123E         | adhesives                   | 500                       |
|            |              | glazing compound            | 128                       |
|            |              | herbicides                  | 302                       |
|            |              | joint compound              | 417                       |
|            |              | sealers                     | 542                       |
|            |              | solvents                    | 644                       |
| 542        | 542          | acetone                     | 360                       |
|            |              | adhesives                   | 1,517                     |
|            |              | brake fluid                 | 132                       |
|            |              | cement                      | 490                       |
|            |              | citric acid                 | 3,200                     |
|            |              | cleaners                    | 76,238                    |
|            |              | coating compounds           | 3,752                     |
|            |              | coolant fluid               | 16,360                    |
|            |              | corrosion prevention compd. | 2,435                     |
|            |              | deodorizers                 | 241                       |
|            |              | deoxidizer                  | 1,848                     |
|            |              | descaler                    | 3,246                     |
|            |              | detergent                   | 4,798                     |
|            |              | disinfectant                | 416                       |
|            |              | fire extinguisher           | 832                       |
|            |              | floor wax                   | 6,053                     |
|            |              | grease                      | 3,677                     |
|            |              | isopropyl alcohol           | 1,296                     |
|            |              | hydraulic fluid             | 35,551                    |
|            |              | ion exchange compound       | 872                       |
|            |              | masonry surface conditioner | 1,620                     |
|            |              | methyl ethyl ketone         | 306                       |



**Table L-1 (continued)**  
**1995 FISCO Hazardous Materials Inventory**

| Parcel No. | Building No. | Material Category     | Maximum Quantity (pounds) |
|------------|--------------|-----------------------|---------------------------|
|            |              | oil                   | 6,623                     |
|            |              | paint                 | 41,860                    |
|            |              | polish                | 456                       |
|            |              | sealers               | 2,239                     |
|            |              | sodium hypochlorite   | 1,140                     |
|            |              | solvents              | 11,876                    |
|            |              | strippers             | 2,523                     |
|            |              | sulfuric acid         | 187                       |
|            |              | tetrachloroethylene   | 24,127                    |
|            |              | thinners              | 502                       |
|            |              | toluene               | 1,052                     |
|            |              | trichloroethane       | 2,006                     |
|            |              | wire rope exposed     | 525                       |
| 310        | 310          | Amerold OSC           | 200                       |
|            |              | cleaners              | 1,196                     |
|            |              | detergents            | 1,400                     |
|            |              | fire extinguisher     | 100                       |
|            |              | floor wax             | 625                       |
|            |              | freon                 | 390                       |
|            |              | magnesium chloride    | 320                       |
|            |              | oil                   | 100                       |
|            |              | paint                 | 500                       |
|            |              | polish                | 180                       |
|            |              | refractory mix        | 1,310                     |
|            |              | sealant               | 250                       |
|            |              | thinner               | 500                       |
| 711        | 711          | absorbents            | 8,440                     |
|            |              | acetylene             | 10,977                    |
|            |              | activated desiccant   | 2,090                     |
|            |              | adhesives             | 2,232                     |
|            |              | isopropyl alcohol     | 210                       |
|            |              | ammonia               | 18,407                    |
|            |              | antifreeze            | 39,400                    |
|            |              | argon                 | 23,370                    |
|            |              | brake fluid           | 2,800                     |
|            |              | calibration fluid     | 1,050                     |
|            |              | carbon dioxide        | 66,833                    |
|            |              | carbon removal compd. | 1,400                     |
|            |              | caulking compd.       | 120                       |
|            |              | cement                | 120                       |
|            |              | chlorine              | 159,300                   |

**Table L-1 (continued)**  
**1995 FISCO Hazardous Materials Inventory**

| Parcel No. | Building No. | Material Category             | Maximum Quantity (pounds) |
|------------|--------------|-------------------------------|---------------------------|
|            |              | cleaners                      | 38,010                    |
|            |              | coating compounds             | 3,205                     |
|            |              | corrosion prevention compound | 1,963                     |
|            |              | cutting fluid                 | 1,272                     |
|            |              | detergent                     | 29,180                    |
|            |              | developers                    | 420                       |
|            |              | disinfectants                 | 3,552                     |
|            |              | ethyl acetate                 | 945                       |
|            |              | fire extinguisher             | 1,700                     |
|            |              | fixers                        | 2,790                     |
|            |              | floor wax                     | 4,436                     |
|            |              | freon                         | 152,668                   |
|            |              | grease                        | 241,674                   |
|            |              | helium                        | 44,735                    |
|            |              | hydraulic fluid               | 143,897                   |
|            |              | hydrogen                      | 156,100                   |
|            |              | inspection penetrants         | 620                       |
|            |              | insulating compounds.         | 20,106                    |
|            |              | ion exchange compound         | 361,550                   |
|            |              | laundry starch                | 1,840                     |
|            |              | leak test/detect compound     | 11,623                    |
|            |              | lubricants                    | 495                       |
|            |              | mercury                       | 180                       |
|            |              | nitrogen gas                  | 177,920                   |
|            |              | oils                          | 41,600                    |
|            |              | oxygen gas                    | 124,091                   |
|            |              | paint                         | 3,540                     |
|            |              | pesticides                    | 1,992                     |
|            |              | petroleum                     | 920                       |
|            |              | potassium carbonate           | 3,200                     |
|            |              | potassium hydroxide           | 9,426                     |
|            |              | propane                       | 4,160                     |
|            |              | sealers                       | 950                       |
|            |              | silicone compounds.           | 110                       |
|            |              | sodium chloride               | 1,800                     |
|            |              | sodium hydroxide              | 800                       |
|            |              | solvents                      | 31,760                    |
|            |              | spackling paste               | 315                       |
|            |              | strippers                     | 4,900                     |
|            |              | thinners                      | 180                       |
|            |              | titrating solutions           | 812                       |
|            |              | toners                        | 1,230                     |

**Table L-1 (continued)**  
**1995 FISCO Hazardous Materials Inventory**

| Parcel No. | Building No. | Material Category   | Maximum Quantity (pounds)  |
|------------|--------------|---|--|
| 342        | 342          | absorbents<br>caulking compound<br>cleaners<br>concrete<br>moisture displacer<br>oil<br>silicone compounds.<br>solvents<br>stucco mix                                     | 606<br>1,200<br>400<br>1,840<br>105<br>450<br>220<br>324<br>180  |
| 441        | 441 B        | lubricants<br>solvents  | 156<br>550   |
| 533        | 533          | concrete<br>sealers<br>solvents   | 4,800<br>900<br>440  |
| 534        | 534          | abrasive blasting materials<br>glass traffic beads  | 2,500<br>1850  |
| 541        | 541          | absorbents<br>adhesives<br>cement<br>drywall compound<br>grease<br>lubricants<br>oil<br>paint<br>roof sealing compound<br>sealers<br>thinners<br>urethane<br>welding rods | 1,000<br>4,896<br>13,217<br>7,565<br>216<br>1,345<br>389<br>200<br>1,700<br>1,477<br>1,044<br>209<br>209 |
| 833        | 833          | acetylene<br>adhesives<br>antifreeze<br>cement<br>cleaners<br>corrosion prevention compound<br>grease<br>hydraulic fluid<br>oil<br>oxygen gas                             | 1,460<br>100<br>220<br>1,280<br>1,648<br>440<br>3,780<br>14,140<br>24,748<br>2,200                       |

**Table L-1 (continued)**  
**1995 FISCO Hazardous Materials Inventory**

| Parcel<br>No. | Building<br>No. | Material Category | Maximum<br>Quantity<br>(pounds) |
|---------------|-----------------|-------------------|---------------------------------|
|               |                 | paint             | 454                             |
|               |                 | solvents          | 3,064                           |
|               |                 | thinners          | 180                             |

pounds = pounds per year  
Source: US Navy 1996fh

|



**TABLE L-2. PHASES OF THE CERCLA REMEDIATION PROCESS**

Phases of the CERCLA remediation process are described below.

*Site Discovery (SD).* A site is an area that has had or has the potential for a hazardous substance release. A single facility may contain several sites to be studied under the IRP. Occasionally, potential sites are discovered by searching through records or during construction projects.

*Preliminary Assessment (PA).* This assessment identifies areas of potential contamination and evaluates each area to determine if a threat to human health or the environment exists. A PA report is developed from readily available information, such as past inventory records, aerial photographs, employee interviews, existing analytical data, and an activity visit. A PA may recommend no further action, additional work under the IRP, or a removal action.

*Site Inspection (SI).* This inspection is conducted after the PA when additional information is needed to evaluate a site. The collection and analysis of soil, sediment, and surface and ground water samples may help to determine the need for further study. Information needed for hazard ranking also is collected. An SI may recommend a site for no action, further study, or an immediate removal action. The PA and SI are often performed concurrently.

*Hazard Ranking System (HRS).* This system provides a uniform method of scoring or ranking the potential risk of a site where a hazardous substance has been present. A site in this context refers to the entire FISCO complex. The EPA developed the HRS to prioritize clean-up efforts. The EPA evaluates the draft HRS packages and proposes any facility scoring 28.5 or higher for inclusion on the National Priorities List (NPL). Facilities that are listed on the NPL receive the highest priority. FISCO is not on the NPL.

*Removal Actions (RO).* In the event of an immediate threat or potential threat to human health or the environment, a short-term mitigating or cleanup action may be implemented. The goal of the removal action is to isolate the contamination hot spots and their source from all biological receptors. Usually, removal actions do not completely clean up a site, and additional remediation steps are required.

*Remedial Investigation (RI).* This investigation is performed to more fully define the nature and extent of the contamination at a site and to evaluate possible methods of cleaning up the site. During the investigation, ground water, surface water, soil, sediment, and biological samples are collected and analyzed to determine the type and concentration of each contaminant. Samples are collected at different areas and depths to help determine the spread of the contamination. The RI process at FISCO is typically done in two phases—Phase I, site characterization and Phase II, characterization of the constituents of concern, the migration pathways, and the potential hazards to human health and the environment.

*Feasibility Study (FS).* The feasibility study identifies and evaluates all applicable site cleanup alternatives. As part of the study, a risk assessment is performed to quantify the level of risk to the public and environment posed by the site. Often, the risk assessment determines which alternative is selected for final remediation. Each alternative is evaluated for effectiveness in protecting human health and the environment, ease of implementation, and overall cost. Typically, the RI and FS are performed concurrently.

*Remedial Action Plans (RAP)/Record of Decision (ROD).* These two documents are essentially the same. RAP is the state term while ROD is federal. The RAP/ROD documents the reasoning behind the selection of a particular cleanup alternative. A RAP/ROD is required even if the most feasible alternative is no action.

*Remedial Design (RD).* After the RAP/ROD is signed, the remedial design phase can begin. In the RD, specific construction parameters and/or equipment specifications are presented for the selected cleanup alternative.

*Remedial Action (RA).* During the remedial action phase, the selected cleanup technology is implemented. RA can be as simple as soil excavation or as complicated as a complete ground water treatment system which may operate for many years. Remedial action work plans for long-term remediations include operation and maintenance (O&M) plans. O&M efforts continue until the cleanup is complete.

*Long-term Monitoring.* After completion of the RA, federal, state, or local regulatory agencies may require subsequent monitoring of the site.

**TABLE L-3. FISCO INSTALLATION RESTORATION PROGRAM SITES**

The following is a brief discussion of the ten remedial investigation (RI) sites and the remediation areas based on the information presented in the final scoping plan (US Navy 1992b) the Final Environmental Baseline Survey (EBS) (US Navy 1996h) and the Final Base Realignment and Closure Cleanup Plan (BCP) (US Navy 1996i).

#### **Remedial Investigation Area I**

Area 1 consists of sites IRP 01 (Lot 612), IRP 03 (Building 511E), IRP 12 (former location of Building 414), IRP 13 (former location of Building 411), and IRP 14 (Buildings 511 and 511B). A brief description of each IRP site is as follows.

*IRP 01: Lot 612 - Hazardous Waste Storage Lot.* Lot 612 is located in the northeastern portion of FISCO and consists of three large buildings (Buildings 612, 612A, and 612C) and three small buildings (612B, 612E, and 612F) surrounded by an open area. This RI site was used by the Defense Reutilization and Marketing Office (DRMO) as a scrapyard and storage area for materials from military installations throughout the Bay Area up to 1980. Materials stored and staged at this site include hazardous wastes, such as paints, waste solvents, pesticides, halogenated and nonhalogenated solvents, thinners, corrosives, and heavy metal sludge. In addition, PCBs also may have been stored at this site. In 1981, Public Works Center (PWC) took over the site and had a private contractor remove and dispose of all on-site waste (US Navy 1992b).

As part of the SI, 14 soil borings were drilled in the vicinity of the eight wooden 20 feet by 20 feet open storage bins and the staging area location northeast of the bins, and 26 soil samples were collected. Analytical results for the soil samples indicate that petroleum hydrocarbons, such as diesel and toluene, are present in the soil at this site. In addition, some solvents, such as acetone and vinyl chloride, were detected (US Navy 1992b).

According to the remedial phase I investigation report, one surface soil samples was collected east of Building 612-B. Analytical results indicated that the concentrations for seven metals, including lead, exceeded preliminary remediation goals (PRG) for residential land uses. In addition, the arsenic concentration in this sample exceeded PRGs for industrial land uses (US Navy 1995d).

Currently, a phase II RI/FS and RO are to be conducted at this site. Removal of lead and mercury-contaminated surface soil is scheduled to be completed in the summer of 1996 (US Navy 1996i).

*IRP 03: Building 511-E - Stained Oil Areas.* Building 511-E is located in the northeastern portion of FISCO and consists of a building and concrete pad, which were constructed in 1942. The building was used up to 1950 as a rigging loft for cranes. Since 1980, the area immediately surrounding Building 511-E was used for



handling materials that required redrumming or overpacking. Between 1980 and 1983, this area was used to redrum waste materials (US Navy 1992b).

Four soil borings were drilled at the site as part of the SI, and soil samples were collected. Analytical results for the soil samples indicated that petroleum hydrocarbons, volatile organic compounds (VOCs), and semivolatile compounds (SVOCs) were detected in the soil (US Navy 1992b).

According to the remedial phase I investigation report, two sludge samples were collected from a drainage sump adjacent to Building 511B. High concentrations of solvents, SVOCs, petroleum hydrocarbons and lead were reported to have been detected in these samples (US Navy 1995d).

Currently, a phase II RI/FS and RO are to be conducted at this site. Removal of asphalt contaminated with lead is scheduled to be completed in the summer of 1996 (US Navy 1996i).

IRP 12: Former Building 414 - Transportation Maintenance Shop and Lot. IRP 12 is located in the north central portion of FISCO and consists of building 414 and a surrounding lot. The structure was constructed in the 1940s and was used for storage up to 1984. The building was later used for maintenance activities on Navy vehicles and equipment from 1984 to 1989. The building was condemned after the 1989 Loma Prieta earthquake and later demolished. Based on the PA conducted in 1991, a Phase I RI was conducted at this IRP site. Currently a Phase II RI/FS is pending (US Navy 1992b; US Navy 1996i).

IRP 13: Former Building 411 - Transportation Maintenance Shop and Lot. IRP 13 is located in the northern portion of FISCO and consists of a building surrounded by an open area. The site was used up to 1989 as a maintenance area for vehicles and light equipment. The building was condemned after the 1989 Loma Prieta earthquake. Five hydraulic lifts and two waste oil underground storage tanks (USTs) (Tanks 411-1 and 411-2) were located at the site. The USTs were removed in the fall of 1992 as part of the Navy Clean Contract (US Navy 1992b; US Navy 1996i).

As part of the SI, seven soil borings were drilled at the site. Soil and ground water samples were collected, and the analytical results for the soil samples indicated that petroleum hydrocarbons, VOCs, and SVOCs were present in the soil at this site. VOCs were detected in some of the ground water samples collected from the site (US Navy 1992b).

Currently, a phase II RI/FS and field scale pilot test are to be conducted at this site (US Navy 1996i).

IRP 14: Buildings 511 & 511B - Heavy Equipment Repair. IRP 14 site is located in the northern portion of FISCO. The site consists of two buildings surrounded by



an open lot. Building 511 was used as a locomotive repair shop from 1942, when it was constructed, to 1975. This building was later used as a repair shop for heavy equipment from 1975 to 1989. Currently, this building is used to store and classify recyclable dry goods, such as paper and cardboard. Building 511-B was used up to 1989 as an automobile and small truck wash (US Navy 1992b).

Four USTs formerly were located at this site—two 12,300-gallon diesel USTs (Tanks 511F-1 and 511F-2), one 2,300-gallon gasoline UST (Tank 511F-3), and one 750-gallon waste oil UST (Tank 511-1). The USTs were removed in the fall of 1992 as part of the Navy Clean contract. Analytical results for the soil samples collected during the UST removal activities indicated that a release of petroleum hydrocarbons has occurred in the vicinity of the USTs.

Under the SI, six soil borings were drilled in the vicinity of the USTs, oil water separator, and the shop drains. Soil, ground water, and sludge samples were collected during the SI investigation. Analytical results for the soil and ground water samples indicate the presence detectable concentrations of VOCs, SVOCs, petroleum hydrocarbons, and metals (US Navy 1992b). Currently, a phase II RI/FS is to be conducted at this site (US Navy 1996i).

## Remedial Investigation Area II

Area II consists of IRP 02 (former Buildings 740C and 738), IRP 15 (Lots 642, 643, and 644), and IRP 21 (Lot 645). A brief discussion of each site follows.

IRP 02: Buildings 740C and 738 - Stained Soil Areas. IRP 02 is located in the southeastern part of the FISCO and consists of two attached buildings (Buildings 740C and 738), a closed Imhoff tank and one 3,600-gallon UST (Tank 740). The western ends of the buildings were used to stage equipment, drums, and materials, which included lubricants, solvents, paints, and motor oil. The buildings were used as an auto hobby shop until they were closed in 1985 due to structural problems. Wastes from automotive repair, such as sandblasting grit, lubricants, solvents, and paints, were reportedly disposed of in an unpaved area surrounding the Imhoff tank. Tank 740 was removed in the fall of 1992 as part of the Navy Clean Contract (US Navy 1992b).

Seven soil borings were drilled and one composite surface sample was collected at the site as part of the SI. Based on the analytical results for the soil and ground water samples collected, petroleum products, VOCs, SVOCs, and metals were detected in the soil and ground water samples (US Navy 1992b).

Based upon the results of the sampling data, a phase II RI/FS was recommended at Building 740C and Building 738 to develop remedial alternatives, to delineate the extent of contamination, to determine the source of contamination and potential pathways, and to evaluate metals in the ground water (US Navy 1996i).

IRP 15: Lots 642, 643, and 644 - Petroleum Based Products and Cleaning Solvent Storage. IRP 15 is located in the southern portion of FISCO and consists of three paved lots separated by a railroad spurs. These lots were used as a drum storage area for petroleum-based products and cleaning solvents. Materials included oils, hydraulic fluids, antifreeze, and to a lesser extent, dry cleaning solvents, malathion, and insulating oils. The pavement in this area has been stained due to minor spills and leaks from drums previously stored at this site (US Navy 1992b).

A soil gas survey was conducted at this site in the fall of 1990 as part of the SI. Twenty-five sample locations were selected, and VOCs were detected in the soil gas samples collected from several of the sampling locations. An additional fourteen soil borings were drilled, and soil and ground water samples were collected. Analytical results for the soil and ground water samples indicated detectable concentrations of petroleum hydrocarbons, VOCs, and SVOCs. No inorganic analytical data for soils were available for lots 642, 643, and 644 (US Navy 1992b).

Currently, a phase II RI/FS and RO are to be conducted at this site. Removal of surface soils contaminated with petroleum compounds is scheduled to be completed in the summer of 1996 (US Navy 1996i).

IRP 21: Lot 645 - Open Storage Area. Lot 645 is located in the south central portion of FISCO. This area has been used to store large bulky ship parts, such as propellers, rudder components, and proper drive shafts. During the 1991 environmental assessment conducted at this site, field personnel noted a greenish gray sand (sand blasting grit) covering much of the surface in the western portion of the site. Based on surface soil sampling, this sand blasting grit was reported to contain elevated metal concentrations, and the soil in this area was removed under a RO in November 1994 (US Navy 1996h; US Navy 1996i).

### **Remedial Investigation Area III**

Area 3 consists of IRP 18 (Building 534) and IRP 20 (Lot 532). A brief discussion of each site follows.

IRP 18: Building 534 - Paint Shop Accumulation Area. IRP 18 is located in the central portion of FISCO and consists of a building surrounded by a lot. This site was used for painting and sandblasting. Paint and solvents were stored in the lot adjacent to the building (US Navy 1992b). Currently, a phase II RI/FS is to be conducted at this site (US Navy 1996i).

IRP 20: Lot 532 - Former 90-Day Hazardous Waste Accumulation Area. IRP 20 is located in the central portion of FISCO and consists of an open area surrounding a shed. This site was reported to have been used as a 90-day accumulation area for hazardous waste (US Navy 1992b). Currently, a phase II RI/FS is to be conducted at this site (US Navy 1996i).

### Miscellaneous IRP Sites

IRP 04: Lot 111: PCB Transformer Storage Area. IRP 04 is located in the northwestern portion of FISCO, and consists of a single building and concrete pad, which was used to store electrical equipment and some pesticides from 1942 until the 1980s. Since the 1980s, it has only been used to store new electrical transformers. Based on the analytical results from a composite soil sample collected at the site, pesticides and PCBs have been detected in the soil (US Navy 1992b).

Currently, a phase II RI/FS and RO are to be conducted at this site. Removal of surface soils contaminated with PCBs is scheduled to be completed in the summer of 1996 (US Navy 1996i).

IRP 05: Building 431 - Hazardous Materials Classification. Building 431 is located in the central portion of FISCO and has been primarily used since 1985 to classify and temporarily store hazardous materials for up to 90 days. Hazardous materials handled at this site include combustible liquids, petroleum products, corrosives, oxidizers, peroxides, calcium, sodium nitrates, and lead paints. In addition to the handling of hazardous materials, dip tanks located in the eastern portion of the building were used for various metal processing operations, such as degreasing. Prior to 1985, this site was used as a general storage area. A limited scope expanded site inspection (ESI) has been proposed in the vicinity of the dip tanks at this site (US Navy 1992b).

IRP 17: Buildings 721, 722, 723, 731, 732, and 733 - Navy Resale Warehouse Buildings. IRP 17 is located in the eastern portion of FISCO, and consists of six buildings, which are used to store large quantities of various bulk goods for distribution to Navy exchange stores. Currently this site is being investigated for radiological contamination. Once the radiological assessment is completed, and assuming no contamination is discovered, this site will be designated as a no action site (US Navy 1996i).

IRP 19: Building 710 - The Public Works Center Maintenance Area. Building 710B is located in the northeastern portion of FISCO and is used as the PWC maintenance area for the operation of the storm drain system, heavy equipment storage, and office space. Hazardous materials or wastes generally are not stored or handled at this site; however, the surface in several areas of the site is stained with oil. In addition, floating oil was occasionally observed in the sewer and an old PCB spill was cleaned up at this site in the late 1970s. A limited scope ESI was conducted and the site was recommended for RO (US Navy 1992b; US Navy 1996i).

Currently, a phase II RI/FS and RO are to be conducted at this site. Removal of surface soils contaminated with PCBs is scheduled to be completed in the summer of 1996 (US Navy 1996i).



**Table L-4**  
**FISCO Asbestos Containing Material Summary**

| Lease Area | Building | ACM                   |
|------------|----------|-----------------------|
| 1          | 243      | Yes, Non-Friable      |
| 1          | 343      | Yes, Non-Friable      |
| 1          | 443      | Yes, Non-Friable      |
| 1          | 543      | Friable ACM Suspected |
| 1          | 633      | Yes, Non-Friable      |
| 1          | 642      | ACM Not Suspected     |
| 1          | 649      | Yes, Non-Friable      |
| 1          | 730      | Yes, Non-Friable      |
| 1          | Shed 443 | ACM Not Suspected     |
| 2          | 741      | Yes, Non-Friable      |
| 2          | 742      | Friable ACM Suspected |
| 2          | 746      | Friable ACM Suspected |
| 2          | 750      | Yes, Non-Friable      |
| 2          | 754      | Friable ACM Suspected |
| 2          | 755      | Yes, Non-Friable      |
| 2          | 834      | Yes, Non-Friable      |
| 2          | 841      | Yes, Non-Friable      |
| 2          | 842      | Yes, Non-Friable      |
| 2          | 844      | Friable ACM Suspected |
| 2          | 845      | Yes, Non-Friable      |
| 2          | 846      | Yes, Non-Friable      |
| 2          | 848      | Yes, Non-Friable      |
| 2          | 850      | ACM Not Suspected     |
| 2          | 742A     | Yes, Non-Friable      |
| 2          | 841A     | Friable ACM Suspected |
| 2          | 841B     | Yes, Non-Friable      |
| 2          | 841C     | Friable ACM Suspected |
| 2          | 841G     | ACM Not Suspected     |
| 2          | 841H     | ACM Not Suspected     |
| 3          | 612      | Yes, Non-Friable      |
| 3          | 700      | ACM Not Suspected     |
| 3          | 710      | Yes, Non-Friable      |
| 3          | 711      | Yes, Non-Friable      |
| 3          | 712      | Yes, Non-Friable      |
| 3          | 721      | Yes, Non-Friable      |
| 3          | 722      | Yes, Non-Friable      |
| 3          | 723      | Yes, Non-Friable      |



**Table L-4 (continued)**  
**FISCO Asbestos Containing Material Summary**

| Lease Area | Building | ACM                   |
|------------|----------|-----------------------|
| 3          | 724      | Yes, Non-Friable      |
| 3          | 731      | Yes, Non-Friable      |
| 3          | 732      | Yes, Non-Friable      |
| 3          | 723      | Yes, Non-Friable      |
| 3          | 724      | Yes, Non-Friable      |
| 3          | 821      | Yes, Non-Friable      |
| 3          | 831      | Friable ACM Suspected |
| 3          | 833      | Yes, Non-Friable      |
| 3          | 612A     | Yes, Non-Friable      |
| 3          | 612B     | Yes, Non-Friable      |
| 3          | 612C     | Yes, Non-Friable      |
| 3          | 612E     | Yes, Non-Friable      |
| 3          | 612F     | Yes, Non-Friable      |
| 3          | 612H     | ACM Not Suspected     |
| 3          | 622A     | ACM Not Suspected     |
| 3          | 710A     | Yes, Non-Friable      |
| 3          | 710B     | Yes, Non-Friable      |
| 3          | 712C     | Yes, Non-Friable      |
| 3          | 733A     | Yes, Non-Friable      |
| 3          | 733B     | Yes, Non-Friable      |
| 4          | 111      | ACM Not Suspected     |
| 4          | 113      | Friable ACM Suspected |
| 4          | 114      | ACM Not Suspected     |
| 4          | 116      | ACM Not Suspected     |
| 4          | 122      | Yes, Non-Friable      |
| 4          | 123      | Yes, Non-Friable      |
| 4          | 131      | Friable ACM Suspected |
| 4          | 141      | Friable ACM Suspected |
| 4          | 221      | Friable ACM Suspected |
| 4          | 222      | Friable ACM Suspected |
| 4          | 223      | Friable ACM Suspected |
| 4          | 320      | Friable ACM Suspected |
| 4          | 321      | Yes, Non-Friable      |
| 4          | 322      | Friable ACM Suspected |
| 4          | 323      | ACM Not Suspected     |
| 4          | 324      | ACM Not Suspected     |
| 4          | 325      | ACM Not Suspected     |
| 4          | 331      | Yes, Non-Friable      |

**Table L-4 (continued)**  
**FISCO Asbestos Containing Material Summary**

| Lease Area | Building | ACM                   |
|------------|----------|-----------------------|
| 4          | 332      | Friable ACM Suspected |
| 4          | 333      | Yes, Non-Friable      |
| 4          | 341      | Yes, Non-Friable      |
| 4          | 342      | Yes, Non-Friable      |
| 4          | 421      | Friable ACM Suspected |
| 4          | 422      | Yes, Non-Friable      |
| 4          | 431      | Yes, Non-Friable      |
| 4          | 432      | Yes, Non-Friable      |
| 4          | 433      | Yes, Non-Friable      |
| 4          | 441      | Yes, Non-Friable      |
| 4          | 442      | Yes, Non-Friable      |
| 4          | 521      | Friable ACM Suspected |
| 4          | 522      | Friable ACM Suspected |
| 4          | 531      | Yes, Non-Friable      |
| 4          | 532      | Yes, Non-Friable      |
| 4          | 533      | Yes, Non-Friable      |
| 4          | 534      | ACM Not Suspected     |
| 4          | 541      | Yes, Non-Friable      |
| 4          | 542      | ACM Not Suspected     |
| 4          | 112E     | ACM Not Suspected     |
| 4          | 122A     | Yes, Non-Friable      |
| 4          | 342A     | Yes, Non-Friable      |
| 4          | 441A     | Yes, Non-Friable      |
| 4          | 441B     | Yes, Non-Friable      |
| 4          | 522A     | Yes, Non-Friable      |
| 4          | 532B     | Yes, Non-Friable      |
| 4          | 533B     | ACM Not Suspected     |
| 4          | 211      | Yes, Non-Friable      |
| 4          | 212      | Yes, Non-Friable      |
| 4          | 213      | Yes, Non-Friable      |
| 4          | 310      | Friable ACM Suspected |
| 4          | 311      | Friable ACM Suspected |
| 4          | 312      | Friable ACM Suspected |
| 4          | 313      | Friable ACM Suspected |
| 4          | 405      | Yes, Non-Friable      |
| 4          | 410      | Yes, Non-Friable      |
| 4          | 412      | Friable ACM Suspected |
| 4          | 413      | Yes, Non-Friable      |

**Table L-4 (continued)**  
**FISCO Asbestos Containing Material Summary**

| Lease Area | Building | ACM                   |
|------------|----------|-----------------------|
| 4          | 500      | Yes, Non-Friable      |
| 4          | 501      | Yes, Non-Friable      |
| 4          | 502      | Friable ACM Suspected |
| 4          | 503      | Yes, Non-Friable      |
| 4          | 504      | Yes, Non-Friable      |
| 4          | 511      | Friable ACM Suspected |
| 4          | 512      | Yes, Non-Friable      |
| 4          | 513      | Yes, Non-Friable      |
| 4          | 311A     | Yes, Non-Friable      |
| 4          | 412A     | Yes, Non-Friable      |
| 4          | 505A     | ACM Not Suspected     |
| 4          | 505B     | ACM Not Suspected     |
| 4          | 511B     | Yes, Non-Friable      |
| 4          | 511D     | Yes, Non-Friable      |
| 4          | 511E     | Yes, Non-Friable      |

Source: US Navy 1996h

**Table L-5**  
**FISCO Phase I RI Characterization Report**  
**Summary of Sampling Activities**  
**Area 1**

| Sampling Type   | Number of Samples | Sampling Dates                         | Sample Method           | Laboratory Location | Analysis  |
|-----------------|-------------------|--|-------------------------|---------------------|---|
| Soil Gas        | 28                | 03/06/94-03/08/94                      | Geoprobe                | On Site             | VOC   |
| Surface Soil    | 1                 | 03/05/94                               | Disposable Trowel       | Off Site            | VOC, SVOC, TRPH, Metals   |
| Subsurface Soil | 34                | 03/17/94-03/19/94                      | Geoprobe                | On Site             | Headspace VOCs(field screening)   |
| Subsurface Soil | 22                | 03/28/94-03/29/94                      | Geoprobe                | Off Site            | VOCs SVOC, TRPH, TOC, Metals  |
| Subsurface Soil | 36                | 06/16/94-06/21/94                      | Hollow Stem Auger       | Off Site            | VOC, SVOC, TRPH, TOC <sup>1</sup> , Metals <sup>2</sup> , TCLP <sup>3</sup> , Physical Parameter <sup>4</sup> |
| Groundwater     | 5                 | 04/07/94-04/08/94<br>(temporary wells) | Bailer/Peristaltic Pump | Off Site            | VOC, SVOC, TRPH, Metals (total and dissolved)   |
| Groundwater     | 9                 | 06/26/94-06/30/94                      | Bailer/Peristaltic Pump | Off Site            | VOC, SVOC, Metals (assorted), TRPH  |

<sup>1</sup>TOC analysis was performed on 12 soil samples

<sup>2</sup>Metals analysis included CLP analysis plus mercury

<sup>3</sup>TCLP analysis was performed on five soil samples

<sup>4</sup>Physical parameters testing was performed on eight samples and included density, porosity, grain size analysis, total organic carbon, and pH.

VOC = Volatile organic compounds

SVOC = Semivolatile organic compounds

TRPH = Total recoverable petroleum hydrocarbon

Source: US Navy 1996a



**Table L-6**  
**FISCO Phase I RI Characterization Report**  
**Summary of Sampling Activities**  
**Area 2**

| Sampling Type   | Number of Samples | Sampling Dates                   | Sample Method                  | Laboratory Location | Analysis  |
|-----------------|-------------------|----------------------------------|--------------------------------|---------------------|---|
| Subsurface Soil | 12                | 03/11/94-<br>03/12/94            | Geoprobe                       | On Site             | VOC Headspace   |
| Subsurface Soil | 27                | 03/14/94-<br>03/15/94            | Geoprobe                       | Off Site            | VOC, SVOC, TRPH, Metals   |
| Subsurface Soil | 27                | 06/13/94-<br>06/15/94            | Hollow Stem Auger              | On Site             | VOC, SVOC, TRPH, TOC <sup>1</sup> , Metals <sup>2</sup> , TCLP <sup>3</sup> , Physical Parameter <sup>4</sup> |
| Groundwater     | 12                | 06/23/94<br>06/24/94<br>06/28/94 | Bailer/<br>Peristaltic<br>Pump | Off Site            | VOC, SVOC, TRPH, Metals (dissolved)   |

<sup>1</sup>TOC analysis was performed on six soil samples

<sup>2</sup>Metals analysis included CLP analysis plus mercury

<sup>3</sup>TCLP analysis was performed on five soil samples

<sup>4</sup>Physical parameters testing was performed on seven samples and included density, porosity, grain size analysis, total organic carbon, and pH.

VOC = Volatile organic compounds

SVOC = Semivolatile organic compounds

TRPH = Total recoverable petroleum hydrocarbon

Source: US Navy 1996a

**Table L-7**  
**FISCO Phase I RI Characterization Report**  
**Summary of Sampling Activities**  
**Basewide Investigation**

| Sampling Type   | Number of Samples | Sampling Dates                   | Sample Method               | Laboratory Location | Analysis                                    |
|-----------------|-------------------|----------------------------------|-----------------------------|---------------------|---|
| Subsurface Soil | 27                | 03/16/94<br>03/17/94<br>03/19/94 | Geoprobe                    | Off Site            | CLP Metals                                  |
| Subsurface Soil | 29                | 03/31/94-<br>04/05/94            | Hollow Stem Auger           | Off Site            | CLP Metals <sup>1</sup> , TCLP <sup>2</sup> |
| Groundwater     | 14                | 04/13/94-<br>04/20/94            | Bailer/<br>Peristaltic Pump | Off Site            | Metals <sup>3</sup> , TPH, TDS              |

<sup>1</sup>Metals analysis included mercury

<sup>2</sup>TCLP analysis was performed on six soil samples

<sup>3</sup> Metals analysis on groundwater included total and dissolved

CLP = Contact Laboratory Program

TCLP = Toxicity characteristic leaching procedure

TPH = Total petroleum hydrocarbon

TDS = Total dissolved solids

Source: US Navy 1996a

**Table L-8**  
**FISCO Phase I RI Characterization Report**  
**Monitoring Well Construction Data**  
**Area 1**

| Well Number            | Date Drilled <sup>1</sup> | Well Depth (ft bgs) | Screened Interval (ft bgs) | Aquifer Monitored | Elevation (ft above MLLW) <sup>2</sup><br>Top of Casing | Elevation (ft above MLLW) <sup>2</sup><br>Ground Surface |
|------------------------|---------------------------|---------------------|----------------------------|-------------------|---|--|
| A1-MW01                | 06/20/94                  | 12.0                | 3.0-11.8                   | Shallow           | 15.51   | 13.54  |
| A1-MW02                | 06/16/94                  | 13.0                | 3.0-12.8                   | Shallow           | 15.23   | 13.46  |
| A1-MW03                | 06/16/94                  | 13.0                | 3.0-13.0                   | Shallow           | 13.18   | 13.35  |
| A1-MW04                | 06/16/94                  | 11.0                | 3.0-11.0                   | Shallow           | 13.23   | 13.45  |
| A1-MW05                | 06/16/94                  | 12.0                | 3.0-11.8                   | Shallow           | 13.96   | 14.26  |
| A1-MW06                | 06/16/94                  | 12.0                | 3.0-11.8                   | Shallow           | 15.42   | 13.50  |
| A1-MW07                | 06/20/94                  | 12.0                | 3.0-11.8                   | Shallow           | 15.77   | 13.76  |
| A1-MW08                | 06/20/94                  | 15.0                | 3.0-14.8                   | Shallow           | 13.51   | 13.97  |
| A1-MW09                | 06/21/94                  | 12.0                | 3.0-11.8                   | Shallow           | 15.32   | 13.34  |
| A1-MW10                | 06/20/94                  | 13.0                | 3.0-12.8                   | Shallow           | 15.38   | 13.39  |
| A1-MW11                | 06/21/94                  | 13.0                | 3.0-12.8                   | Shallow           | 14.67   | 12.75  |
| A1-MW12                | 06/20/94                  | 13.0                | 3.0-12.8                   | Shallow           | 14.80   | 12.90  |
| <b>Temporary Wells</b> |                           |                     |                            |                   |   |  |
| A1-MW02T               | 04/01/94                  | 12.8                | 3.8-12.8                   | Shallow           | 14.96   | 13.65  |
| A1-MW04T               | 03/29/94                  | 11.7                | 1.7-11.7                   | Shallow           | 14.57   | 13.39  |
| A1-MW06T               | 03/29/94                  | 8.2                 | 3.2-8.2                    | Shallow           | 15.60   | 13.41  |
| A1-MW08T               | 03/29/94                  | 12.7                | 2.7-12.7                   | Shallow           | 16.56   | 13.44  |
| A1-MW09T               | 03/29/94                  | 7.2                 | 4.7-7.2                    | Shallow           | 15.97   | 13.18  |
| A1-MW11T               | 04/01/94                  | 10.2                | 0.5-10.2                   | Shallow           | 16.47   | 13.05  |

<sup>1</sup>All Area 2 monitoring wells were cased with 2-inch PVC piping

<sup>2</sup>MLLW - mean lower low water

Source: US Navy 1996a

**Table L-9**  
**FISCO Phase I RI Characterization Report**  
**Monitoring Well Construction Data**  
**Area 2**

| Well Number | Date Drilled <sup>1</sup> | Well Depth (ft bgs) | Screened Interval (ft bgs) | Aquifer Monitored | Elevation (ft above MLLW) <sup>2</sup><br>Top of Casing | Elevation (ft above MLLW) <sup>2</sup><br>Ground Surface |
|-------------|---------------------------|---------------------|----------------------------|-------------------|---|--|
| A2-MW01     | 06/15/94                  | 8.3                 | 3.0-8.1                    | Shallow           | 11.75   | 12.10  |
| A2-MW02     | 06/15/94                  | 15.0                | 5.0-14.8                   | Shallow           | 11.51   | 11.78  |
| A2-MW03     | 06/15/94                  | 13.0                | 3.0-13.0                   | Shallow           | 9.58  | 10.14  |
| A2-MW04     | 06/14/94                  | 13.0                | 3.0-13.0                   | Shallow           | 14.63   | 12.56  |
| A2-MW05     | 06/14/94                  | 13.0                | 3.0-13.0                   | Shallow           | 14.41   | 12.43  |
| A2-MW06     | 06/15/94                  | 9.5                 | 3.0-9.3                    | Shallow           | 12.89   | 10.83  |
| A2-MW07     | 06/13/94                  | 11.6                | 3.0-10.8                   | Shallow           | 9.66  | 9.95   |
| A2-MW08     | 06/13/94                  | 8.5                 | 3.0-8.5                    | Shallow           | 14.90   | 12.92  |
| A2-MW09     | 06/15/94                  | 10.0                | 3.0-9.8                    | Shallow           | 13.78   | 11.74  |

<sup>1</sup>All Area 2 monitoring wells were cased with 2-inch PVC piping

<sup>2</sup>MLLW - mean lower low water

Source: US Navy 1996a



**Table L-10**  
**FISCO Phase I RI Characterization Report**  
**Monitoring Well Construction Data**  
**Area 2**

| Well Number | Date Drilled <sup>1</sup> | Well Depth (ft bgs) | Screened Interval (ft bgs) | Aquifer Monitored | Elevation (ft above MLLW) <sup>2</sup><br>Top of Casing | Elevation (ft above MLLW) <sup>2</sup><br>Ground Surface |
|-------------|---------------------------|---------------------|----------------------------|-------------------|---|--|
| A3-MW01     | 09/19/94                  | 10.0                | 4.0-10.0                   | Shallow           | NA <sup>3</sup>   | 12.77  |
| A3-MW02     | 09/19/94                  | 17.0                | 12.0-17.0                  | Shallow           | NA  | 11.95  |
| A3-MW03     | 09/19/94                  | 19.0                | 14.0-19.0                  | Shallow           | NA  | 11.95  |
| A3-MW04     | 09/20/94                  | 8.0                 | 3.0-8.0                    | Shallow           | NA  | 12.99  |
| A3-MW05     | 09/20/94                  | 10.0                | 4.0-10.0                   | Shallow           | NA  | 13.80  |
| A3-MW06     | 09/20/94                  | 8.0                 | 3.0-8.0                    | Shallow           | NA  | 12.51  |
| A3-MW07     | 09/20/94                  | 9.0                 | 4.0-9.0                    | Shallow           | NA  | 12.35  |
| A3-MW08     | 09/20/94                  | 10.0                | 4.0-10.0                   | Shallow           | NA  | 13.50  |

<sup>1</sup>All Area 3 monitoring wells were cased with 2-inch PVC piping

<sup>2</sup>MLLW - mean lower low water

<sup>3</sup>NA - not available

Source: US Navy 1996a

**Table L-11**  
**Groundwater Elevations**  
**UST Sites 211, 331N, 331S, 331E, 332, 334, 511D, 750, 842, and 845**

| Well ID       | Total Depth<br>(btoc) | Screened<br>Interval<br>(btoc) | Well Head<br>Elev<br>(toc-msl) | Date<br>Measured | DTW<br>(btoc) | WL Elev<br>(msl) |
|---------------|-----------------------|--------------------------------|--------------------------------|------------------|---------------|------------------|
| UST Site 211  |                       |                                |                                |                  |               |                  |
| 211-MW1       | 14.2                  | 4.0-13.0                       | 13.43                          | 1/24/95          | 4.84          | 8.59             |
| 211-MW2       | 14.8                  | 4.5-13.5                       | 12.85                          | 1/24/95          | 4.16          | 8.69             |
| 211-MW3       | 14.8                  | 3.5-12.5                       | 13.09                          | 1/24/95          | 4.25          | 8.84             |
| UST Site 331N |                       |                                |                                |                  |               |                  |
| 331N-MW1      | 14.3                  | 4.0-14.0                       | 112.00                         | 8/17/95          | 4.59          | 107.41           |
|               |                       |                                |                                | 8/30/95          | 4.00          | 108.00           |
| 331N-MW2      | 14.5                  | 4.0-14.5                       | 111.47                         | 8/17/95          | 4.16          | 107.31           |
|               |                       |                                |                                | 8/30/95          | 3.50          | 107.97           |
| 331N-MW3      | 14.6                  | 4.1-14.1                       | 111.82                         | 8/17/95          | 4.32          | 107.50           |
|               |                       |                                |                                | 8/30/95          | 3.62          | 108.20           |
| 331N-HMW1     | 17.9                  | unknown                        | 111.61                         | 8/30/95          | 3.71          | 107.90           |
| UST Site 331S |                       |                                |                                |                  |               |                  |
| 331S-MW1      | 13.6                  | 3.6-12.6                       | 12.54                          | 1/25/95          | 4.40          | 8.14             |
|               |                       |                                |                                | 8/18/95          | 4.50          | 8.04             |
| 331S-MW2      | 13.8                  | 3.5-12.5                       | 12.22                          | 1/25/95          | 5.22          | 7.00             |
|               |                       |                                |                                | 8/18/95          | 5.65          | 6.57             |
| 331S-MW3      | 13.6                  | 3.5-12.5                       | 12.39                          | 1/25/95          | 3.41          | 8.98             |
|               |                       |                                |                                | 8/18/95          | 3.17          | 9.22             |
| UST Site 331E |                       |                                |                                |                  |               |                  |
| 331E-MW1      | 14.0                  | 3.5-12.5                       | 12.49                          | 1/26/95          | 4.48          | 8.01             |
|               |                       |                                |                                | 8/18/95          | 4.48          | 8.01             |
| 331E-MW2      | 14.6                  | 3.5-12.5                       | 12.60                          | 1/26/95          | 4.62          | 7.98             |
|               |                       |                                |                                | 8/18/95          | 5.05          | 7.55             |
| 331E-MW3      | 14.2                  | 3.5-12.5                       | 12.62                          | 1/26/95          | 5.00          | 7.62             |
|               |                       |                                |                                | 8/18/95          | 5.41          | 7.21             |
| UST Site 332  |                       |                                |                                |                  |               |                  |
| 332-MW1       | 13.6                  | 3.5-12.5                       | 12.05                          | 1/24/95          | 6.67          | 5.38             |
| 332-MW2       | 13.5                  | 3.5-12.5                       | 12.08                          | 1/25/95          | 5.65          | 6.43             |
| 332-MW3       | 13.8                  | 3.5-12.5                       | 12.04                          | 1/25/95          | 6.13          | 5.91             |
| UST Site 334  |                       |                                |                                |                  |               |                  |
| 334-MW1       | 15.0                  | 4.5-14.5                       | 112.22                         | 8/18/95          | 7.14          | 105.08           |
|               |                       |                                |                                | 8/31/95          | 7.19          | 105.03           |
| 334-MW2       | 14.3                  | 3.8-13.8                       | 111.68                         | 8/18/95          | 7.41          | 104.27           |
|               |                       |                                |                                | 8/31/95          | 6.80          | 104.88           |
| 334-MW3       | 20.0                  | 4.5-19.5                       | 111.70                         | 8/18/95          | 7.25          | 104.45           |
|               |                       |                                |                                | 8/31/95          | 6.74          | 104.96           |

**Table L-11 (continued)**  
**Groundwater Elevations**  
**UST Sites 211, 331N, 331S, 331E, 332, 334, 511D, 750, 842, and 845**

| Well ID       | Total Depth<br>(btoc) | Screened<br>Interval<br>(btoc) | Well Head<br>Elev<br>(toc-msl) | Date<br>Measured | DTW<br>(btoc) | WL Elev<br>(msl) |
|---------------|-----------------------|--------------------------------|--------------------------------|------------------|---------------|------------------|
| UST Site 511D |                       |                                |                                |                  |               |                  |
| 511D-MW1      | 14.8                  | 3.5-12.5                       | 13.95                          | 1/20/95          | 4.21          | 9.74             |
| 511D-MW2      | 15.0                  | 3.5-12.5                       | 12.49                          | 1/20/95          | 3.11          | 9.38             |
| 511D-MW3      | 14.5                  | 3.5-12.5                       | 13.17                          | 1/20/95          | 4.00          | 9.17             |
| UST Site 750  |                       |                                |                                |                  |               |                  |
| 750-MW1       | 14.5                  | 3.8-13.8                       | 12.28                          | 8/2/96           | 6.24          | 6.04             |
| 750-MW2       | 13.3                  | 2.8-12.8                       | 12.28                          | 8/2/96           | 6.21          | 6.07             |
| 750-MW3       | 14.5                  | 4.5-14.5                       | 12.43                          | 8/2/96           | 6.50          | 5.93             |
| UST Site 842  |                       |                                |                                |                  |               |                  |
| 842-MW1       | 13.2                  | 2.9-12.9                       | 13.09                          | 1/20/95          | 3.11          | 9.98             |
|               |                       |                                |                                | 3/30/95          | 3.24          | 9.85             |
| 842-MW2       | 13.1                  | 2.8-12.8                       | 14.15                          | 1/20/95          | 4.91          | 9.24             |
|               |                       |                                |                                | 3/30/95          | 5.00          | 9.15             |
| 842-MW3       | 13.6                  | 3.4-13.4                       | 12.69                          | 1/20/95          | 3.17          | 9.52             |
|               |                       |                                |                                | 3/30/95          | 3.92          | 8.77             |
| UST Site 845  |                       |                                |                                |                  |               |                  |
| 845-MW1       | 14.0                  | 3.8-13.8                       | 14.14                          | 1/23/95          | 3.90          | 10.24            |
|               |                       |                                |                                | 3/30/95          | 4.06          | 10.08            |
| 845-MW2       | 14.2                  | 4.0-14.0                       | 13.93                          | 1/23/95          | 3.94          | 9.99             |
|               |                       |                                |                                | 3/30/95          | 3.88          | 10.05            |
| 845-MW3       | 13.5                  | 3.3-13.3                       | 14.31                          | 1/23/95          | 4.19          | 10.12            |
|               |                       |                                |                                | 3/30/95          | 4.39          | 9.92             |

**NOTES:**

All measurements in feet.

**KEY:**

btoc - Below top of casing

toc = Top of casing

msl - Above mean sea level

DTW = Depth to water

WL = Water level

Source: ERM West Inc. 1996

**Table L-12**  
**FISCO Phase I RI Characterization Report**  
**Monitoring Well Construction Data**  
**Basewide Wells**

| Well Number          | Date Drilled <sup>1</sup> | Well Depth (ft bgs) | Screened Interval (ft bgs) | Aquifer Monitored | Elevation (ft above MLLW) <sup>2</sup><br>Top of Casing | Elevation (ft above MLLW) <sup>2</sup><br>Ground Surface |
|----------------------|---------------------------|---------------------|----------------------------|-------------------|---|--|
| BW-MW01              | 04/13/94                  | 11.5                | 1.5-11.5                   | Shallow           | 15.93   | 13.77  |
| BW-MW02              | 04/13/94                  | 12.0                | 4.0-12.0                   | Shallow           | 15.01   | 13.05  |
| BW-MW02              | 04/01/94                  | 9.4                 | 4.5-9.5                    | Shallow           | 15.10   | 13.35  |
| BW-MW04              | 04/01/94                  | 8.9                 | 3.0-9.0                    | Shallow           | 15.31   | 13.35  |
| BW-MW05              | 04/01/94                  | 9.0                 | 3.0-9.0                    | Shallow           | 14.10   | 12.15  |
| BW-MW06              | 04/01/94                  | 18.1                | 3.3-18.3                   | Shallow           | 11.54   | 11.99  |
| BW-MW07              | 04/04/94                  | 12.3                | 3.0-12.5                   | Shallow           | 14.43   | 12.47  |
| BW-MW08              | 04/04/94                  | 8.2                 | 3.0-8.0                    | Shallow           | 15.37   | 13.16  |
| BW-MW09              | 04/05/94                  | 9.8                 | 3.0-10.0                   | Shallow           | 13.81   | 12.09  |
| BW-MW10              | 04/07/94                  | 13.4                | 3.0-14.0                   | Shallow           | 14.48   | 12.68  |
| BW-MW11              | 04/08/94                  | 19.8                | 14.8-19.5                  | Deep              | 15.69   | 13.77  |
| BW-MW12              | 04/08/94<br>04/11/94      | 25.4                | 15.0-25.0                  | Deep              | 14.70   | 12.70  |
| BW-MW13              | 04/12/94                  | 28.7                | 18.0-28.5                  | Deep              | 14.10   | 12.67  |
| BW-MW14              | 04/12/94                  | 24.8                | 14.5-24.5                  | Deep              | 15.38   | 13.37  |
| BW-MW15 <sup>3</sup> | 04/13/94                  | 25.9                | 15.0-25.0                  | Deep              | 15.35   | 13.44  |

<sup>1</sup>All Area 2 monitoring wells were cased with 2-inch PVC piping

<sup>2</sup>MLLW - mean lower low water

<sup>3</sup>Monitoring well BW-MW15 was destroyed in June 1994

Source: US Navy 1996a



**Table L-13**  
**Summary of PCB Sampling and Analysis Results for FISCO**

| LOCATION         | SERIAL NUMBER | TYPE   | SAMPLED | RESULTS |
|------------------|---------------|--------|---------|---------|
| Building 310 Pen | C.O.-01       | Liquid | 4-18-93 | 8 ppm   |
| Building 310 Pen | C.O.-02       | Liquid | 4-18-93 | 2 ppm   |
| Building 310 Pen | C.O.-03       | Liquid | 4-18-93 | 9 ppm   |
| Building 633     | COS-148S01    | Liquid | 4-07-93 | < 1 ppm |
| Building 633     | COS-148S01    | Liquid | 4-07-93 | < 1 ppm |
| Building 633     | COS-148S03    | Liquid | 4-07-93 | < 1 ppm |
| Substation A     | K6461229-304  | Liquid | 4-18-93 | < 1 ppm |
| Substation A     | K6461229-305  | Liquid | 4-18-93 | < 1 ppm |
| Substation A     | K6461229-301  | Liquid | 4-18-93 | < 1 ppm |
| Substation A     | 0159A7818-1   | Liquid | 4-18-93 | < 1 ppm |
| Building 123     | 75B3610       | Dry    | N/A     | N/A     |
| Building 141     | A5373         | Dry    | N/A     | N/A     |
| Building 310     | 37401-001     | Dry    | N/A     | N/A     |
| Building 321     | PQD-0282      | Liquid | 4-18-93 | < 1 ppm |
| Building 411     | PRJ-0871      | Liquid | 4-18-93 | < 1 ppm |
| Building 422     | G81E14475     | Dry    | N/A     | N/A     |
| Building 504     | PVD-0313      | Liquid | 4-18-93 | < 1 ppm |
| Building 522     | D6661-588     | Dry    | N/A     | N/A     |
| Building 542     | PSA-0041      | Liquid | 4-21-93 | < 1 ppm |
| Lot 754          | 79A283052     | Liquid | 4-14-93 | < 1 ppm |
| Lot 754          | 83A170192     | Liquid | 4-14-93 | < 1 ppm |
| P-17A & B        | 83VLO37001    | Liquid | 4-18-93 | < 1 ppm |
| P-17A & B        | 83VLO37002    | Liquid | 4-18-93 | < 1 ppm |
| P-17A & B        | 83VLO37003    | Liquid | 4-18-93 | < 1 ppm |
| P-18A & B        | 83A020104     | Liquid | 4-18-93 | < 1 ppm |
| P-18A & B        | 83A020105     | Liquid | 4-18-93 | < 1 ppm |
| P-18A & B        | 83A020107     | Liquid | 4-18-93 | < 1 ppm |
| P-20D            | 85A123271     | Liquid | 4-18-93 | < 1 ppm |
| P-20D            | 85A130696     | Liquid | 4-18-93 | < 1 ppm |
| P-29A & B        | 83A020101     | Liquid | 4-18-93 | < 1 ppm |
| P-29A & B        | 83A020102     | Liquid | 4-18-93 | < 1 ppm |
| P-29A & B        | 83A020106     | Liquid | 4-18-93 | < 1 ppm |
| P-33             | 83A032145     | Liquid | 4-18-93 | < 1 ppm |

**Table L-13 (continued)**  
**Summary of PCB Sampling and Analysis Results for FISCO**

| LOCATION         | SERIAL NUMBER | TYPE   | SAMPLED | RESULTS |
|------------------|---------------|--------|---------|---------|
| P-33             | 83A032147     | Liquid | 4-18-93 | < 1 ppm |
| P-33             | 83A032149     | Liquid | 4-18-93 | < 1 ppm |
| P-46             | 83VLO36001    | Liquid | 4-18-93 | < 1 ppm |
| P-46             | 83VLO36002    | Liquid | 4-18-93 | < 1 ppm |
| P-46             | 83VLO36003    | Liquid | 4-18-93 | < 1 ppm |
| P-52             | IZO6481       | Liquid | 5-05-93 | < 1 ppm |
| P-52             | IZO6482       | Liquid | 5-05-93 | < 1 ppm |
| P-52             | IZO6483       | Liquid | 4-18-93 | < 1 ppm |
| P-69A            | 82A521676     | Liquid | 4-18-93 | < 1 ppm |
| P-69A            | 82A521674     | Liquid | 4-18-93 | < 1 ppm |
| P-69A            | 82A521675     | Liquid | 4-18-93 | < 1 ppm |
| P-7              | LZ41584K74    | Liquid | 4-18-93 | < 1 ppm |
| P-84             | 86NLO11073    | Liquid | 4-18-93 | < 1 ppm |
| PIER 5s          | 01759-1       | Dry    | N/A     | N/A     |
| Removed B-754    | 886001169     | Liquid | 4-14-93 | < 1 ppm |
| Building 310 Pen | 751-1981      | Liquid | 4-18-93 | 9 ppm   |
| Building 844     | X62-51221     | Dry    | N/A     | N/A     |
| Building 842     | 876011266     | Liquid | 4-22-93 | < 1 ppm |
| R. R. Weigh      | 83JB884024    | Liquid | 4-28-93 | < 1 ppm |
| Building 750     | POE-0225      | Liquid | 4-21-93 | < 1 ppm |
| Building 141     | 14270-1       | Liquid | 4-22-93 | 11 ppm  |
| Jst 534          | R876011327    | Liquid | 4-22-93 | < 1 ppm |
| Building 312     | 886001434     | Liquid | 4-18-93 | < 1 ppm |
| Building 312     | 886001433     | Liquid | 4-18-93 | < 1 ppm |
| Building 310     | 886001491     | Liquid | 4-18-93 | < 1 ppm |
| Building 310 Pen | V89585        | Dry    | N/A     | N/A     |
| Building 642     | 83JA870088    | Liquid | 4-21-93 | < 1 ppm |
| Building 441A    | 83JA867089    | Liquid | 4-28-93 | < 1 ppm |
| Building 541     | X228-51221    | Dry    | N/A     | N/A     |
| Building 533     | 43969         | Dry    | N/A     | N/A     |
| Building 532     | 43968-3       | Dry    | N/A     | N/A     |
| Building 531     | 43965-1       | Dry    | N/A     | N/A     |
| Building 441A    | 83JB875033    | Liquid | 4-13-93 | < 1 ppm |

**Table L-13 (continued)**  
**Summary of PCB Sampling and Analysis Results for FISCO**

| LOCATION      | SERIAL NUMBER | TYPE   | SAMPLED | RESULTS |
|---------------|---------------|--------|---------|---------|
| Building 712N | 51221-2       | Dry    | N/A     | N/A     |
| Building 442  | 43967-1       | Dry    | N/A     | N/A     |
| Building 441  | 43967-2       | Dry    | N/A     | N/A     |
| Building 141  | 43965-2       | Dry    | N/A     | N/A     |
| Building 141  | 43968-1       | Dry    | N/A     | N/A     |
| Building 243  | 43965-3       | Dry    | N/A     | N/A     |
| Building 344  | 43966-4       | Dry    | N/A     | N/A     |
| Building 343  | 43968-4       | Dry    | N/A     | N/A     |
| Building 544  | 43966-1       | Dry    | N/A     | N/A     |
| Building 443  | 43966-3       | Dry    | N/A     | N/A     |
| Building 333  | 43968-2       | Dry    | N/A     | N/A     |
| Building 433  | 43966-2       | Dry    | N/A     | N/A     |
| Building 221  | B-4513        | Dry    | N/A     | N/A     |
| Building 222  | B-4510        | Dry    | N/A     | N/A     |
| Building 122  | B-3672        | Dry    | N/A     | N/A     |
| Building 754  | PQD-0285      | Liquid | 4-19-93 | < 1 ppm |
| N.M. PKL      | PQD-0310      | Liquid | 4-19-93 | < 1 ppm |
| Building 122  | B-3673        | Dry    | N/A     | N/A     |
| Building 113  | PQC-0255      | Liquid | 3-31-93 | < 1 ppm |
| Building 113  | PQC-0256      | Liquid | 3-31-93 | < 1 ppm |
| Building 213  | B-3677        | Dry    | N/A     | N/A     |
| Building 320  | PQB-0154      | Liquid | 4-18-93 | < 1 ppm |
| Building 211  | PQD-0326      | Liquid | 4-18-93 | < 1 ppm |
| Building 311  | 57-10112      | Liquid | 4-18-93 | < 1 ppm |
| Building 311  | PQJ-0857      | Liquid | 4-18-93 | < 1 ppm |
| Building 410  | 84JM331190    | Liquid | 4-18-93 | < 1 ppm |
| Building 502  | PQD-0324      | Liquid | 4-18-93 | < 1 ppm |
| Building 505  | PQD-0266      | Liquid | 4-18-93 | < 1 ppm |
| Building 511  | B-3700        | Dry    | N/A     | N/A     |
| Building 311  | B-3528        | Dry    | N/A     | N/A     |
| Building 311  | B-3581        | Dry    | N/A     | N/A     |
| Building 312  | PQC-0169      | Liquid | 4-27-93 | < 1 ppm |
| Building 311  | B-3533        | Dry    | N/A     | N/A     |



**Table L-13 (continued)**  
**Summary of PCB Sampling and Analysis Results for FISCO**

| LOCATION     | SERIAL NUMBER | TYPE   | SAMPLED | RESULTS |
|--------------|---------------|--------|---------|---------|
| Building 311 | B-3532        | Dry    | N/A     | N/A     |
| Building 513 | B-3678        | Dry    | N/A     | N/A     |
| Building 521 | PQC-0257      | R-Temp | 4-22-93 | < 1 ppm |
| Building 413 | B-3434        | Dry    | N/A     | N/A     |
| Building 412 | B-3524        | Dry    | N/A     | N/A     |
| Building 313 | B-3523        | Dry    | N/A     | N/A     |
| Building 313 | B-3527        | Dry    | N/A     | N/A     |
| Building 422 | PML-1194      | Liquid | 4-22-93 | < 1 ppm |
| Building 112 | UNK (x-467)   | Liquid | 4-07-93 | < 1 ppm |
| Building 212 | B-3676        | Dry    | N/A     | N/A     |
| Building 322 | PQD-0323      | Liquid | 4-18-93 | < 1 ppm |
| Building 331 | B-3525        | Dry    | N/A     | N/A     |
| Building 131 | PQB-0160      | Liquid | 4-22-93 | < 1 ppm |
| Building 131 | PQB-0144      | Liquid | 3-30-93 | < 1 ppm |
| Building 131 | PQD-0301      | Liquid | 4-22-93 | < 1 ppm |
| Building 332 | B-4476        | Dry    | N/A     | N/A     |
| Building 421 | B-3517        | Dry    | N/A     | N/A     |
| Building 421 | B-3699        | Dry    | N/A     | N/A     |
| Building 431 | B-3433        | Dry    | N/A     | N/A     |
| Building 522 | B-3436        | Dry    | N/A     | N/A     |
| Building 612 | B-4514        | Dry    | N/A     | N/A     |
| Building 633 | 83A040026     | Liquid | 4-07-93 | < 1 ppm |
| Building 633 | 83A040027     | Liquid | 4-07-93 | < 1 ppm |
| Building 633 | 83A040028     | Liquid | 4-07-93 | < 1 ppm |
| Building 223 | X290040       | R-Temp | 4-19-93 | < 1 ppm |
| Berth B-1    | X290039       | Liquid | 4-18-93 | < 1 ppm |
| N.M. PKL     | X290048       | R-Temp | 4-18-93 | < 1 ppm |

Source: US Navy 1996h



**Table L-14**  
**Summary of FISCO Radiological Materials Handling**

| Lease Area | Parcel | Records Indicate Storage | Interviews or V/P Inspection Suggests Staging or Other Interim Use | RCS Status  |
|------------|--------|--------------------------|--|---|
| 1          | 444    | X                        |  | Building demolished. RASO has determined that no follow-up radiological survey work is warranted at the site.   |
| 1          | 742    | X                        |  | RCS completed, no evidence of release identified.   |
| 2          | 841    | X                        |  | US NRC released the area for unrestricted use based on the results of a confirmatory survey. RASO has determined that an additional RCS is not necessary. |
| 3          | 733    | X                        |  | RCS completed, no evidence of release identified.   |
| 3          | 831    | X                        |  | RCS pending removal of radiological materials.  |
| 4          | 113    | X                        |  | RCS underway.   |
| 4          | 331    |                          | X  | No RCS planned, no storage areas have been identified.  |
| 4          | 332    | X                        | X  | RCS underway.   |
| 4          | 333    |                          | X  | No RCS planned, no storage areas have been identified.  |
| 4          | 341    |                          | X  | No RCS planned, no storage areas have been identified.  |

**Table L-14 (continued)**  
**Summary of FISCO Radiological Materials Handling**

| Lease Area | Parcel | Records Indicate Storage | Interviews or V/P Inspection Suggests Staging or Other Interim Use | RCS Status   |
|------------|--------|--------------------------|--|--|
| 4          | 421    | X                        |  | RCS underway.  |
| 4          | 433    |                          | X  | No RCS planned, no storage areas have been identified. |
| 4          | 521    |                          | X  | No RCS planned, no storage areas have been identified. |
| 5          | 211    | X                        |  | RCS underway.  |
| 5          | 212    | X                        |  | RCS underway.  |
| 5          | 310    | X                        |  | RCS underway.  |
| 5          | 312    | X                        |  | RCS underway.  |
| 5          | 313    | X                        |  | RCS underway.  |
| 5          | 412    | X                        |  | RCS underway.  |

Source: US Navy 1996i

**Table L-15**  
**FISCO Ordnance Summary**

| Lease Area | Parcel | Ordnance Material or Operations                     |
|------------|--------|---|
| 2          | 742    | Special weapons shop operations.                    |
| 4          | 113    | Small arms ammunition storage, indoor firing range. |
| 4          | 332    | Staging of ordnance for shipment.                   |
| 5          | 212    | Demobilized bombs and missile casings.              |
| 5          | 310    | Ammunition and explosives storage.                  |
| 5          | 412    | Ammunition storage magazine.                        |

Source: US Navy 1996i

**Table L-16**  
**Oakland Army Base PCB/Transformers**

| BRAC Parcel | Building                   | Transformers | Serial Number  | Comments (PCB Sampling Data)   |
|-------------|----------------------------|--------------|--|--|
| 1           | MH 18                      | 2            | 87-512698<br>N5088   | Sampling data not available<br>Sampling data not available   |
| 2           | 161                        | 1            | 87-51269B  | Removed 1988   |
| 3           | H3<br>PP6002<br>141<br>148 | 1<br>3<br>2  | 8639<br>*<br>87-105-02<br>86-50907-B                         | Sampling data not available<br>Sampling data not available<br>Sampling data not available<br>Sampling data not available |
| 4           |                            |              |  | None present   |
| 5           | PP3406                     | 1            | *  | Sampling data not available  |
| 6           | 905                        | 1            | 87-51159   | Sampling data not available  |
| 7           |                            |              |  | None present   |
| 8           |                            |              |  | None present   |
| 9           | 1<br>6                     | 2<br>1       | 90527-1<br>W208092<br>8600791-1                              | Sampling data not available<br>Sampling data not available<br>Sampling data not available                                |
| 10          | PP2700                     | 3            | GE718605566K<br>GE718606566K<br>GE719683566K                 | 1.1 ppm<br>1.3 ppm<br>7.5 ppm  |
| 11          | 808<br>812                 | 3<br>2       | *<br>6902416<br>6902382                                      | 12 ppm<br>13 ppm<br>18 ppm   |
| 12          | 806                        | 3            | *  | 17 ppm<br>22 ppm<br>15 ppm   |
| 13          | PP3814<br>PP2104           | 3<br>3       | *<br>*<br>6485279  | 12 ppm<br>13 ppm<br>18 ppm   |
| 14          |                            |              |  | None present   |
| 15          | PP1116                     | 1            | *  | 34 ppm   |
| 16          | PP1002<br>PP4001           | 1<br>1       | 6895231<br>*   | Sampling data not available  |
| 17          | PP1011                     | 3            | 7092857<br>7092859<br>7092861                                | 570 ppm<br>840 ppm<br>810 ppm  |
| 18          | 762                        | 4            | 68A8719<br>69AL15915<br>88A063738<br>69AJ1209                | 35 ppm<br>< 1 ppm<br>3 ppm<br>< 1 ppm  |
| 19          | PP1003<br>780<br>793       | 1<br>3<br>1  | 84-5-21<br>90A213663<br>90A220722<br>90A220723<br>88-1-29616 | 12 ppm<br>Sampling data not available for<br>remaining equipment in Study Area   |



**Table L-16 (continued)**  
**Oakland Army Base PCB/Transformers**

|    |                       |   |              |                              |
|----|-----------------------|---|--------------|------------------------------|
| 20 | 740                   | 1 | 81J0419202   | Sampling data not available  |
| 21 | PP5105                | 2 | *, 12814352  | 2.5 ppm                      |
|    | PP5202                | 1 | *            | 13 ppm                       |
| 22 | PP5613                | 1 | G575341-65K  | 28 ppm                       |
|    | 660                   | 1 | H317921-70-P | Sampling data not available  |
| 23 | 640                   | 1 | 73296        | 66 ppm Scheduled for removal |
|    | 640<br>(New Installs) | 2 | 73296        | < 1 ppm                      |
|    |                       |   | 87-51269A    | < 1 ppm                      |
| 24 | PP5202                | 1 | *            | 7.9 ppm                      |
|    | 647                   | 1 | 6897774      | 250 ppm                      |
|    | PP5302                |   |              |                              |
| 25 | 590                   | 2 | 756772       | 110 ppm                      |
|    |                       |   | X63210       | Dry                          |
| 26 | None Present          |   |              |                              |

\* Serial number is unreadable for data source.

Note: Some data gaps in the PCB inventory and past removal, retrofill, and remediation response actions are anticipated for Oakland Army Base

Source: US Army Corps of Engineers 1996

**Table L-17**  
**Oakland Army Base Asbestos**

| BRAC Parcel | Facility Number | Square Feet | Year Constructed | Asbestos Containing Material Information  |
|-------------|-----------------|-------------|------------------|---|
| 2           | 161             | 79,152      | 1942             | P7 Transit Shed - vinyl floor tiles in northwest offices on first floor, woven paper/tape on duct system over northwest offices   |
| 7           | 916             | 1,218       | 1942             | AIS Office - vinyl floor tiles throughout building  |
| 8           | 991             | 3,476       | 1942             | RR Engine Ship - cementitious siding on exterior walls was not sampled but assumed to contain asbestos  |
| 9           | 1               | 161,983     | 1942             | Office Headquarters - vinyl floor tiles throughout building, pipe covering behind walls, perimeter hard wall plaster. Cementitious exhaust pipe in janitor's closet on first floor of Wing 2 not sampled, but assumed to contain asbestos   |
| 9           | 4               | 4,600       | 1942             | POV - vinyl 9" x 9" floor tiles throughout building   |
| 9           | 6               | 16,128      | 1966             | Communication/ADP - vinyl 9" x 9" floor tiles throughout building, acoustical tiles in Room 7A, pipe covering above ceiling in mechanical room  |
| 10          | 60              | 13,256      | 1942             | Cafeteria - vinyl flooring throughout building, pipe covering and mudded joint packages on attic hot water lines  |
| 10          | 70              | 6,715       | 1952             | Military Police - vinyl 9" x 9" and 1' x 1' floor tiles throughout building   |
| 10          | 85              | 9,597       | 1941             | Print Plant - vinyl floor tiles throughout building   |
| 10          | 88              | 11,134      | 1919             | Storage/Forms - vinyl floor tiles, raw asbestos material, pipe covering, linoleum   |
| 10          | 90              | 10,556      | 1941             | AV Safety Mort. - vinyl 9" x 9" floor tiles throughout building, linoleum at entrance to projector room   |
| 10          | 99              | 29,624      | 1918             | AAFES Warehouse - vinyl floor tiles throughout building   |
| 11          | 808             | 235,040     | 1942             | Warehouse 808 - vinyl floor tiles in the office are on the mezzanine  |
| 11          | 812             | 18,345      | 1944             | Vehicle Maintenance Shop - mudded joint packings and woven paper/tape on breaching in mechanical room, mudded joint packings along north wall between offices, pipe coverings in upstairs storeroom, vinyl floor tiles in offices and locker room. Cementitious siding in room off main office, room at east end of ship and along perimeter walls, and cementitious pipe at west end of building were not sampled but assumed to contain asbestos. |
| 11          | 821             | 20,000      | 1943             | Storage - roofing material. Cementitious piping above heaters in east half of building were not sampled but assumed too contain asbestos  |

**Table L-17 (continued)**  
**Oakland Army Base Asbestos**

|    |     |         |      |  |
|----|-----|---------|------|--|
| 11 | 823 | 20,000  | 1942 | Box and Crate Shop - nonfriable materials assumed asbestos containing were cementitious siding and piping on west side of men's restroom   |
| 12 | 806 | 233,640 | 1942 | MOTBA Warehouse 806 - vinyl floor tiles at north side of offices at east end of building   |
| 12 | 807 | 233,640 | 1942 | MOTBA Warehouse 807 - vinyl floor tiles in north side offices. Cementitious pipe off all space heaters and throughout two east wings of building were not sampled but assumed to contain asbestos.   |
| 13 | 804 | 233,640 | 1941 | Warehouse 804 - vinyl floor tiles in mortuary office. Non-friable asbestos includes cementitious panels behind east office gas heater, cementitious pipe in northwest corner, and fire doors throughout building                             |
| 13 | 805 | 233,640 | 1942 | Warehouse 805 - vinyl floor tiles in office along west wall, northwest corner women's restroom. Cementitious piping along north and west sides were not sampled but assumed to contain asbestos  |
| 14 | 802 | 233,640 | 1941 | Warehouse 802 - vinyl floor tiles in women's restroom, southwest corner of Bay 5, northwest corner of office, and employees break room. Cementitious piping in officer and fire doors were not sampled but assumed to contain asbestos       |
| 14 | 803 | 233,640 | 1941 | AAFES Warehouse - vinyl floor tiles in women's restroom, southwest corner of Bay 5, northwest corner of office, and employee break room. Cementitious piping in offices and fire doors were not sampled but assumed to contain asbestos.     |
| 16 | 830 | 2,401   | 1957 | Autocraft Shop- pipe covering and mudded joint packings on domestic water and exhaust lines along north wall   |
| 16 | 833 | 6,052   | 1942 | AFGE Union Hall - vinyl floor tiles on main level. Cementitious siding on exterior of building was not sampled but assumed to contain asbestos   |
| 16 | 834 | 1,209   | 1981 | Motor Pool Dispatch - vinyl floor tiles throughout building  |
| 17 | 840 | 4,912   | 1951 | Paint Shop - Cementitious piping in paint shop and cementitious siding around restroom were not sampled but assumed to contain asbestos  |
| 18 | 762 | 13,638  | 1965 | Dispensary - vinyl floor tiles throughout the building   |
| 19 | 780 | 39,818  | 1955 | Barracks - vinyl floor tiles throughout the building   |
| 19 | 796 | 45,951  | 1951 | PWC Building - boiler/tank insulation, pipe covering with associated mudded joint packings, wrapped cardboard/paper pipe covering and associated mudded joint packings, vinyl floor tiles in first floor janitor's room, Room 305, and annex |



**Table L-17 (continued)**  
**Oakland Army Base Asbestos**

|    |     |         |      |   |
|----|-----|---------|------|---|
| 20 | 701 | 3,796   | 1942 | Chapel - acoustical/thermal insulation on first, second, and third pillars along south wall   |
| 20 | 726 | 14,175  | 1957 | Community Center Library - vinyl tiles throughout building, pipe covering and associated mudded joint packings  |
| 20 | 738 | 7,225   | 1967 | Craft Shop - vinyl floor tiles, hard wall plaster, acoustical tile, wrapped cardboard/paper pipe covering, mudded joint packings  |
| 20 | 740 | 12,053  | 1968 | Bowling Center - vinyl floor tiles in spectator seating area, between lanes, in the office, and in the concession area  |
| 22 | 650 | 35,044  | 1966 | Guest House Hotel - vinyl floor tiles throughout the building, mudded joint packings associated with nonsuspect pipe covering on water lines  |
| 22 | 660 | 10,508  | 1971 | Theater - vinyl floor tiles throughout the building, mudded joint packings associated with pipe coverings in mechanical room, breaching insulation in mechanical room   |
| 23 | 640 | 332,844 | 1945 | AAFES Warehouse - vinyl floor tiles throughout building, pipe covering and mudded joint packings, corrugated pipe covering on water lines of women's restroom of executive office   |
| 23 | 641 | 17,772  | 1942 | Package Store, etc. - vinyl floor tiles at south and west ends of building  |
| 24 | 645 | 2,778   | 1942 | Officers Family Housing - vinyl floor tiles in southeast end of break room  |
| 24 | 646 | 15,000  | 1942 | Storage Family Housing - 1' x 1' and 9" x 9" vinyl floor tiles in abandoned offices at southwest corner   |
| 24 | 647 | 8,800   | 1942 | Child Development and Chapel Annex - vinyl floor tiles throughout the building  |
| 24 | 690 | 12,586  | 1956 | BEQ HQ Detach - vinyl floor tiles throughout building, wrapped cardboard/paper pipe covering and associated mudded joint packings on steam lines in first floor bathroom  |
| 25 | 590 | 363,543 | 1944 | AAFES Warehouse - vinyl floor tiles throughout parts of the building, pipe coverings and associated mudded joint packings on steam system outside boiler room, mudded joint packings associated with dairy cooler supply lines, tank insulation and mudded joint packings on abandoned hot water system |

Source: US Army Corps of Engineers 1996



**Table L-18**  
**Oakland Army Base Oil/Water Separators**

| Oil/Water Separators | Location                          | Current Status of Use              |
|----------------------|-----------------------------------|------------------------------------|
| OWS 1                | Building 991, Railroad Roundhouse | Out of service                     |
| OWS 2                | Building 812                      | Service 1302nd heavy duty vehicles |
| OWS 3                | North side of POV lot             | Clean POVs moved by the 1302nd     |
| OWS 4                | Building 99                       | Service AAFES vehicles             |
| OWS 5                | Building 828                      | Out of service                     |
| OWS 6                | Building 832                      | Service garrison vehicles          |
| OWS 7                | Building 830                      | Service garrison POVs              |
| OWS 8                | Building 843                      | Out of service                     |
| OWS 9                | Building 843                      | Out of service                     |

Source: US Army Corps of Engineers 1996

**Table L-19**  
**Oakland Army Base Aboveground Storage Tanks**

| BRAC Parcel | Location (Building)           | Year Installed | Capacity (gallons) | Tank Material | Substance Stored | Use/Status               |
|-------------|-------------------------------|----------------|--------------------|---------------|------------------|--------------------------|
| 4           | SW corner of POV loading dock | Not known      | 550                | Not known     | Unleaded gas     | Active                   |
| 8           | NW of Building 991            | Not known      | 10,000             | Steel         | Diesel           | Active; replaces old UST |
| 10          | Building 99                   | Not known      | Not known          | Not known     | Waste oil        | Removed                  |
| 16          | North of Building 830         | Not known      | 550                | Not known     | Waste oil        | Active                   |
| 16          | West of Building 844          | 1994           | 10,000             | Steel         | Diesel           | Active; replaces old UST |
| 19          | East of Building 780          | Not known      | 550                | Not known     | Diesel           | Active                   |

Source: US Army Corps of Engineers 1996

**Table L-20**  
**Oakland Army Base Underground Storage Tanks**

| Tank Number                               | BRAC Parcel | Location (Building)       | Year Installed | Capacity (gallons) | Tank Material | Substance Stored | Use/Status  | Regulatory Status | Future Actions <sup>1</sup> |
|---|-------------|---------------------------|----------------|--------------------|---------------|------------------|---|-------------------|-----------------------------|
| <b>Original Underground Storage Tanks</b> |             |                           |                |                    |               |                  |   |                   |                             |
| Tank 1 (old)                              | 9           | Building 1                | 1942           | 1,000              | Bare steel    | Fuel oil         | Fueled Building 1 backup generator. Replaced by new Tank 1. | Removed 1990      | 1                           |
| Tank 2 (old)                              | 9           | Between Buildings 1 and 6 | 1966           | 550                | Bare steel    | Diesel           | Fueled Building 6 backup generator. Replaced by new Tank 2. | Removed 1990      | 1                           |
| Tank 3 (old)                              | 2           | North of Building 161     | 1942           | 250                | Bare steel    | Fuel oil         | Fuel source for Building 161 (Wharf 7)                      | Removed 1990      | 1                           |
| Tank 4 (old)                              | 16          | East of Building 833      | 1957           | 10,000             | Bare steel    | Gasoline         | Fuel source for base motor pool. Replaced by new tank 3.    | Removed 1990      | 2                           |
| Tank 5 (old)                              | 16          | East of Building 833      | 1957           | 10,000             | Bare steel    | Gasoline         | Fuel source for base motor pool. Replaced by new tank 4.    | Removed 1990      | 2                           |
| Tank 6 (old)                              | 8           | Northwest of Building 991 | 1982           | 10,000             | Not known     | Diesel           | Fuel source for base locomotive. Replaced by new tank 5.    | Removed 1994      | 2                           |
| Tank 7 (old)                              | 11          | Northeast of Building 812 | Not known      | 550                | Bare steel    | Waste oil        | Serviced Building 812 wash rack.                            | Removed 1990      | 2                           |
| Tank 8 (old)                              | 11          | Northeast of Building 812 | 1981           | 550                | Bare steel    | Waste oil        | Serviced Building 812 wash rack. Replaced by new Tank 6.    | Removed 1990      | 2                           |

**Table L-20 (continued)**  
**Oakland Army Base Underground Storage Tanks**

|                  |    |                           |      |        |            |           |  |              |   |
|------------------|----|---------------------------|------|--------|------------|-----------|--|--------------|---|
| Tank 9<br>(old)  | 12 | Near Building 807         | 1981 | 2,000  | Fiberglass | Gasoline  | Fuel source for base motor pool.                         | Removed 1994 | 3 |
| Tank 10<br>(old) | 16 | West of Building 844      | 1981 | 10,000 | Not known  | Diesel    | Fuel source for base motor pool. Replaced by new Tank 7. | Removed 1990 | 3 |
| Tank 11<br>(old) | 16 | West of Building 828      | 1969 | 5,000  | Bare steel | Gasoline  | Used Building 828 gas station. Replaced by new Tank 8.   | Removed 1990 | 4 |
| Tank 12<br>(old) | 16 | West of Building 828      | 1969 | 5,000  | Bare steel | Gasoline  | Used Building 828 gas station. Replaced by new Tank 9.   | Removed 1990 | 4 |
| Tank 13<br>(old) | 16 | West of Building 828      | 1969 | 5,000  | Bare steel | Gasoline  | Used Building 828 gas station. Replaced by new Tank 10.  | Removed 1990 | 4 |
| Tank 14<br>(old) | 16 | South of Building 828     | 1969 | 550    | Bare steel | Waste oil | Used Building 828 gas station. Replaced by new Tank 11.  | Removed 1990 | 1 |
| Tank 15<br>(old) | 25 | South of Building 590     | 1944 | 12,500 | Bare steel | Fuel oil  | Building 590 fuel source                                 | Removed 1990 | 2 |
| Tank 16<br>(old) | 19 | South of Building 780     | 1955 | 6,000  | Bare steel | Fuel oil  | Building 780 fuel source                                 | Removed 1990 | 1 |
| Tank 17<br>(old) | 19 | East of Building 793      | 1954 | 8,000  | Bare steel | Fuel oil  | Building 793 fuel source                                 | Removed 1990 | 1 |
| Tank 18<br>(old) | 16 | Southeast of Building 830 | 1957 | 500    | Not known  | Waste oil | Used at Building 830 Auto Craft Shop                     | Removed 1992 | 1 |



**Table L-20 (continued)**  
**Oakland Army Base Underground Storage Tanks**

|  |        |                            |           |       |                               |                               |  |              |   |
|--|--------|----------------------------|-----------|-------|-------------------------------|-------------------------------|--|--------------|---|
| Tank 19 (old)                            | 9      | North of Building 5        | 1982      | 500   | Fiberglass                    | Waste liquid                  | Collected waste liquid from Building 5 floor drain. Renumbered to Tank 12. | Active       |   |
| Tank 20 (old)                            | 9      | Northeast of Building 6    | 1986      | 2,000 | Fiberglass                    | Diesel                        | Renumbered to Tank 13.   | Active       |   |
| Tank 21 (old)                            | 4      | North of Building 14       | 1986      | 550   | Fiberglass                    | Waste oil                     | Renumbered to Tank 14.   | Active       |   |
| <b>Removed Underground Storage Tanks</b> |        |                            |           |       |                               |                               |  |              |   |
| Tank A (old)                             | 11     | Northwest of Building 823  | Not known | 1,000 | Bare steel                    | Fuel oil                      | Served Building 823.   | Removed 1990 | 2 |
| Tank B (old)                             | 10     | West of Building 99        | Not known | 1,000 | Bare steel                    | Gasoline                      | Served Building 99.  | Removed 1990 | 2 |
| Tank C (old)                             | 10     | West of Building 99        | Not known | 1,000 | Bare steel                    | Gasoline                      | Served Building 99.  | Removed 1990 | 2 |
| Tank D (old)                             | 20     | Northeast of Building 726  | Not known | 1,000 | Bare steel                    | Fuel oil                      | Served Buildings 726 and 738.  | Removed 1990 | 5 |
| Tank E (old)                             | 19     | Near Buildings 780 and 772 | Not known | 1,000 | Not known                     | Not known                     | Served Buildings 780 and 772.  | Removed      | 6 |
| Tank F (old)                             | 20     | North of Building 701      | Not known | 500   | Not known; fuel oil suspected | Not known; fuel oil suspected | Served Building 701 (Chapel).  | Removed 1990 | 5 |
| Tank G (old)                             | 20     | Building 726               | Not known | 500   | Not known                     | Not known                     | Served Building 726.   | Removed      | 6 |
| Tank H (old)                             | 20 (?) | Building 734               | Not known | 1,000 | Not known                     | Not known                     | Served Building 734.   | Removed      | 6 |
| Tank I (old)                             | 21     | Building 737               | Not known | 1,000 | Not known                     | Not known                     | Served Building 737.   | Removed      | 6 |

Table L-20 (continued)  
Oakland Army Base Underground Storage Tanks

|   |    |                           |           |           |            |           |  |              |   |
|---|----|---------------------------|-----------|-----------|------------|-----------|--|--------------|---|
| Tank J (old)                              | 22 | Building 66               | Not known | Not known | Not known  | Not known | Served Building 660 (Theater).                                       | Removed      | 6 |
| Tank K (old)                              | 24 | Building 645              | Not known | 500       | Not known  | Not known | Served Building 645.   | Removed      | 6 |
| Tank L (old)                              | 24 | Building 690              | Not known | 2,500     | Not known  | Not known | Served Building 690.   | Removed      | 6 |
| Tank M (old)                              | 13 | East of Building 805      | 1968      | 1,000     | Bare steel | Gasoline  | Served Building 805.   | Removed 1990 | 2 |
| Tank N (old)                              | 16 | Building 835              | 1957      | 500       | Not known  | Waste oil | Served Building 835.   | Removed      | 1 |
| Tank O (old)                              | 8  | Near Building 991         | 1956      | 7,500     |            | Diesel    | Served Buildings 991. Decommissioned and filled with sand in 1982.   | Removed 1994 | 5 |
| Tank P (old)                              | 8  | Near Building 991         | 1956      | 2,000     |            | Diesel    | Served Buildings 991. Decommissioned and filled with sand in 1982.   | Removed 1994 | 5 |
| Tank Q (old)                              | 10 | West of Building 99       | 1956      | 1,000     | Bare steel | Gasoline  | Served Building 99.  | Removed 1990 | 2 |
| New (Permitted) Underground Storage Tanks |    |                           |           |           |            |           |  |              |   |
| Tank 1                                    | 9  | Building 1                | 1990      | 1,000     | Fiberglass | Diesel    | Fuel source for Building 1 backup generator. Replaced by old Tank 1. | Active       |   |
| Tank 2                                    | 9  | Between Buildings 1 and 6 | 1990      | 550       | Fiberglass | Diesel    | Fuel source for Building 6 backup generator. Replaced by old Tank 2. | Active       |   |

**Table L-20 (continued)**  
**Oakland Army Base Underground Storage Tanks**

|         |    |                                      |      |        |            |                   |  |              |           |
|---------|----|--------------------------------------|------|--------|------------|-------------------|--|--------------|-----------|
| Tank 3  | 16 | East of Building 832                 | 1990 | 10,000 | Fiberglass | Unleaded gasoline | Fuel source for Building 834 motor pool. Replaced by old Tank 4.                 | Active       |           |
| Tank 4  | 16 | East of Building 832                 | 1990 | 10,000 | Fiberglass | Unleaded gasoline | Fuel source for Building 834 motor pool. Replaced by old Tank 5.                 | Active       |           |
| Tank 5  | 8  | Northwest of Building 991            | 1982 | 10,000 | Not known  | Diesel            | Served Building 991. In 1990, replaced old Tank 6. In 1994 replaced with an AST. | Removed 1994 | 3         |
| Tank 6  | 11 | Southwest of Building 812            | 1990 | 550    | Fiberglass | Waste oil         | Serves Building 812. Replaced old Tank 8. Scheduled for removal.                 | Active       | 7         |
| Tank 7  | 16 | In motor pool area near Building 844 | 1986 | 10,000 | Fiberglass | Diesel            | Served AAFES. In 1990, replaced old Tank 10. In 1994, replaced with an AST.      | Removed 1994 | 3         |
| Tank 8  | 16 | West of Building 828                 | 1990 | 6,000  | Fiberglass | Unleaded gasoline | Serves Building 828. Replaced old Tank 11.                                       | Active       | Not known |
| Tank 9  | 16 | West of Building 828                 | 1990 | 6,000  | Fiberglass | Unleaded gasoline | Serves Building 828. Replaced old Tank 12.                                       | Active       | Not known |
| Tank 10 | 16 | West of Building 828                 | 1990 | 6,000  | Fiberglass | Unleaded gasoline | Serves Building 828. Replaced old Tank 13.                                       | Active       | 7         |

**Table L-20 (continued)**  
**Oakland Army Base Underground Storage Tanks**

|          |    |                         |      |       |            |              |   |          |   |
|----------|----|-------------------------|------|-------|------------|--------------|---|----------|---|
| Tank 11  | 16 | East of Building 828    | 1990 | 550   | Fiberglass | Waste oil    | Replaced old Tank 14.   | Active   | 7 |
| Tank 12* | 9  | Northwest of Building 5 | 1982 | 500   | Fiberglass | Waste liquid | Received liquid waste from Building 5 floor drain. Not in use. Renumbered from Tank 19. | Inactive | 7 |
| Tank 13  | 9  | Northeast of Building 6 | 1986 | 2,000 | Fiberglass | Diesel       | Fuel source for Building 5 backup generator. Renumbered from Tank 20.                   | Active   | 7 |
| Tank 14  | 4  | North of Building 14    | 1986 | 500   | Fiberglass | Waste oil    | Serves Building 4 wash rack. Renumbered from Tank 21.                                   | Active   | 7 |

\* Identified as Number 12 in UST Monitoring Plan, Number 13 on UST permit.

**Future Actions:**

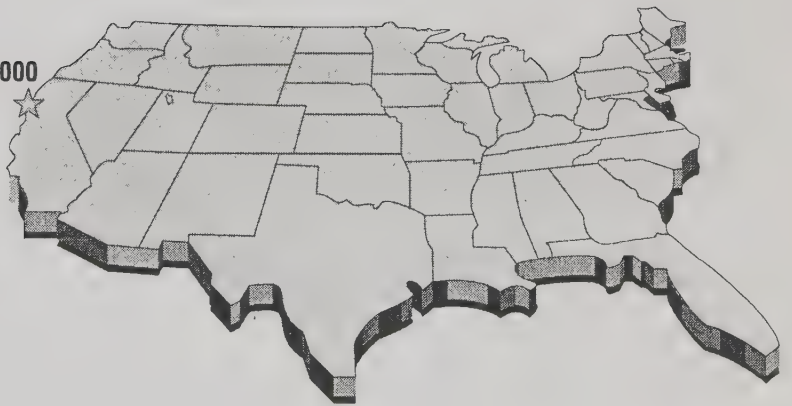
- 1 = Petitioned for closure
- 2 = Baseline risk assessment
- 3 = Status unclear
- 4 = Groundwater monitoring and closure
- 5 = Additional investigation
- 6 = Initial site characterization
- 7 = Removal

Source: US Army Corps of Engineers 1996



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**FISCO/Vision 2000**



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## APPENDIX M MITIGATION MONITORING PROGRAM

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|   |     |
|---|-----|
| INTRODUCTION                            | M-1 |
| MITIGATION MONITORING PROGRAM CHECKLIST | M-2 |
| IMPLEMENTATION                          | M-2 |
| ATTACHMENT 1: MITIGATION MEASURES       | M-4 |
| ATTACHMENT 2: VERIFICATION REPORT       | M-9 |

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# Appendix M

## Mitigation Monitoring Program

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### M.1. INTRODUCTION

Assembly Bill 3180 became law in California on January 1, 1989. This bill requires all public agencies to adopt monitoring or reporting programs when they approve projects subject to environmental impact reports or negative declarations that identify significant impacts. The reporting or monitoring program must be adopted when a public agency makes its findings under the California Environmental Quality Act (CEQA) so that the program can be made a condition of project approval in order to mitigate significant effects on the environment. The program must be designed to ensure compliance during project implementation to mitigate or avoid significant environmental effects.

#### M.1.1. Purpose

This Mitigation Monitoring Program is designed to serve as a tool for the evaluation of project compliance with mitigation measures identified in the joint environmental impact statement/environmental impact report (EIS/EIR) for the Port of Oakland reuse of FISCO pursuant to its Vision 2000 Program. As required by CEQA Guidelines for the preparation of EIRs, the Port of Oakland will use the Mitigation Monitoring Program to verify inclusion of required project design features and ongoing mitigation measures. The document is not applicable to an EIS, which is the NEPA portion of the environment documentation. The Mitigation Monitoring Program Checklist serves as a summary so that appropriate agencies and the public can easily determine responsibility for implementing measures and the responsible party for verification.

#### M.1.2. Content

The Mitigation Monitoring Program lists all of the mitigation measures recommended in the Final EIS/EIR for each of the alternatives. The designations for each of the mitigation measures in the checklist are consistent with the Final EIS/EIR. Upon the selection of the alternative to be developed, the Mitigation Monitoring Program will be implemented as part of the project.



**M.2. MITIGATION MONITORING PROGRAM CHECKLIST**

The Mitigation Monitoring Program Checklist is proposed for monitoring the implementation of the mitigation measures contained in the EIS/EIR. The Port should implement the monitoring program as follows:

- The Port Environmental Department Manager or his designee shall be responsible for coordination of the monitoring program including the monitoring checklist (Attachment 1).
- Each responsible individual or agency shall be accountable for determining whether the mitigation measures contained within the checklist have been complied with. Once all mitigation measures have been complied with, the responsible individual or agency shall submit a Verification Report Form (Attachment 2), or similar form, and a completed checklist to the Port Environmental Department Manager.
- If a responsible individual or agency determines that a noncompliance has occurred, a written notice should be delivered to the Port Environmental Department Manager describing the noncompliance and requiring compliance within a specified period of time. If noncompliance still exists at the expiration of the specified period of time, construction may be halted and fines may be imposed, as appropriate and at the discretion of the Port upon the party responsible for implementation.
- Prior to final sign-off of the building permits, the Director of the Port Engineering Division or his designee shall review the checklist to ensure that all mitigation measures included in the monitoring checklist have been complied with.
- Quarterly, a summary of the status of mitigation measures shall be filed with the Director of the Port Engineering Division.

**M.3. IMPLEMENTATION****M.3.1. Management**

The Port of Oakland Environmental Department shall be responsible for overall implementation and administration of the Mitigation Monitoring Program Checklist for implementation of the Port of Oakland Vision 2000 Program. As appropriate and applicable, other departments and staff are responsible for monitoring and verification of certain mitigation measures.

If current staffing within the Port Environmental Department cannot absorb the work demand to implement the program, a Compliance Officer shall be hired to manage and coordinate the mitigation monitoring and reporting program. The Compliance Officer would serve under the direction of the Environmental Department Manager.

Duties of the Environmental Department Staff or the Compliance Officer shall include the following:

- Routine inspections and reporting activities.
- Plan checks.
- Coordination of activities of consultants hired by the Port when such expertise and qualifications are necessary.
- Coordination with applicable agencies that have mitigation monitoring and reporting responsibilities.
- Assure follow-up and response to citizens' complaints.
- Develop forms and checklists for reporting. A sample Verification Report Form is included (Attachment 2).
- Develop a work plan and schedule for monitoring activities.
- Maintain the Mitigation Monitoring Checklist or other suitable mitigation compliance summary.
- Coordinate and assure implementation of corrective actions or enforcement measures, as needed.

#### **M.3.2. Funding Mechanism**

AB 3180 does not provide a specific funding mechanism for implementation monitoring and reporting programs. However, public agencies have the authority to levy charges, fees or assessments to pay for the program, just as they currently do for the preparation of EIRs and permit documents.

#### **M.3.3. Approval**

The initial Mitigation Monitoring Program and later changes will be reviewed and revised by Port Environmental Department staff under the direction of the Department Manager. The initial program, and substantive changes to the program, will then be submitted to the Director of the Engineering Division for review and approval. The Board of Port Commissioners will submit this Mitigation Monitoring Program for approval and adoption as a condition of project approval.

**ATTACHMENT 1:**  
**Port of Oakland Vision 2000 Program Final EIR Mitigation Monitoring Program Checklist**

| Mitigation Measure   | Alternatives | Implementation   | Monitoring    | Confirmation/Comment |
|--|--------------|--|---------------|----------------------|
| <i>Land Use</i>  |              |  |               |                      |
| Create the public access component of the Vision 2000 Program to mitigate the loss of Middle Harbor Park and one section of the San Francisco Bay Trail.   | A, C, D      | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program  | None required |                      |
| <i>Socioeconomics</i>  |              |  |               |                      |
| No impacts, no mitigation measures required.   | N/A          | N/A  | N/A           | N/A                  |
| <i>Public Services</i>   |              |  |               |                      |
| Explore methods to allow the Spectrum Medical Care clinic to lease nearby property to mitigate the loss of its current location.   | A, D         | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program  | None required |                      |
| <i>Cultural Resources</i>  |              |  |               |                      |
| Amend the existing 1994 MOA among the ACHP, SHPO, Port, and Navy to incorporate specific measures developed in consultation with the Oakland Landmarks Preservation Advisory Board proposed to mitigate impacts from the destruction of historic buildings in the Naval Supply Center Oakland Historic District. | A, B, C, D   | <i>Responsibility:</i> Port, EFA West, SHPO, ACHP, Oakland Landmarks Preservation Advisory Board<br><i>Timing:</i> As a component of the Final EIS/EIR | None required |                      |
| Coordinate among ACHP, SHPO, and the Southern Pacific Railyard to develop measures to mitigate impacts from the loss of the Southern Pacific West Oakland Shops Historic District. Specific mitigation measures will be identified as part of future, project-level environmental documentation.                 | A            | <i>Responsibility:</i> Port, SHPO, ACHP, Southern Pacific<br><i>Timing:</i> As a component of the Vision 2000 Program                                  | None required |                      |
| Coordinate among ACHP, SHPO, and the Army Corps of Engineers to develop measures to mitigate impacts from the loss of the north training wall. Specific mitigation measures will be identified as part of future, project-level environmental documentation.   | A, C, D      | <i>Responsibility:</i> Port, SHPO, ACHP, USACE<br><i>Timing:</i> As a component of the Vision 2000 Program   | None required |                      |
| Create a memorandum of agreement among the ACHP, SHPO, Port, and Army that incorporate specific measures to mitigate impacts from the destruction of historic buildings at the Oakland Army Base.  | C            | <i>Responsibility:</i> Port, SHPO, ACHP, Army<br><i>Timing:</i> As a component of the Vision 2000 Program  | None required |                      |

**ATTACHMENT 1 (cont'd):**  
**Port of Oakland Vision 2000 Program Final EIR Mitigation Monitoring Program Checklist**

| Mitigation Measure   | Alternatives | Implementation  | Monitoring  | Confirmation/Comment |
|--|--------------|---|---|----------------------|
| <i>Visual Resources</i>  |              |   |   |                      |
| Setback the marine terminals from the northern shore of the Oakland Inner Harbor to mitigate impacts from the visual obstruction of Yerba Buena Island and Mount Tamalpais.  | A, C         | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program               | None required   |                      |
| Create the public access component of the Vision 2000 Program to mitigate the loss of views from Middle Harbor Park  | A, C, D      | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program               | None required   |                      |
| <i>Biological Resources</i>  |              |   |   |                      |
| Consult with USFWS and USACE and conduct studies to assess construction and dredging impacts to least tern foraging areas, minimize turbidity in least tern foraging habitats, and create least tern foraging habitats in the marine habitat enhancement area to mitigate potential loss of foraging habitats. | A, C, D      | <i>Responsibility:</i> Port, USFWS, USACE<br><i>Timing:</i> As a component of the Vision 2000 Program | None required   |                      |
| Create new eelgrass beds in the marine habitat enhancement area to mitigate the loss of eelgrass beds in the Oakland Inner Harbor.   | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program               | None required   |                      |
| <i>Water Resources</i>   |              |   |   |                      |
| Expand the stormwater pollution prevention program to include the entire site to mitigate impacts to adjacent waters from polluted runoff.   | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program               | <i>Responsibility:</i> Port<br><i>Timing:</i> As determined by the implemented SWPP |                      |
| Drain all washwater from industrial operations to the sanitary sewer system to mitigate impacts to adjacent waters from polluted runoff.   | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program               | <i>Responsibility:</i> Port<br><i>Timing:</i> As determined by the implemented SWPP |                      |
| Require tenants to develop spill response plans to mitigate the potential impacts of spills on water quality.  | A, B, C, D   | <i>Responsibility:</i> Port, Lessee<br><i>Timing:</i> As a component of the Vision 2000 Program       | <i>Responsibility:</i> Port<br><i>Timing:</i> As determined by the implemented SWPP |                      |
| Require tenants to properly train and equip employees to respond to spills that could enter the storm drain system.  | A, B, C, D   | <i>Responsibility:</i> Port, Lessee<br><i>Timing:</i> As a component of the Vision 2000 Program       | <i>Responsibility:</i> Port<br><i>Timing:</i> As determined by the implemented SWPP |                      |
| Require tenants to store all drums indoors or in properly contained areas to mitigate the impact of leaking drums on water quality.  | A, B, C, D   | <i>Responsibility:</i> Port, Lessee<br><i>Timing:</i> As a component of the Vision 2000 Program       | <i>Responsibility:</i> Port<br><i>Timing:</i> As determined by the implemented SWPP |                      |



**ATTACHMENT 1 (cont'd):**  
**Port of Oakland Vision 2000 Program Final EIR Mitigation Monitoring Program Checklist**

| Mitigation Measure   | Alternatives | Implementation  | Monitoring  | Confirmation/Comment |
|--|--------------|---|---|----------------------|
| <i>Water Resources (cont'd)</i>  |              |   |   |                      |
| Evaluate the availability of land for grassy swales or other vegetative-type controls to allow stormwater to infiltrate into the ground to mitigate impacts to adjacent waters from polluted runoff.   | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program | <i>Responsibility:</i> Port<br><i>Timing:</i> As determined by the implemented SWPP |                      |
| Use special equipment and evaluate and adopt special precautions and measures to mitigate impacts from releasing contaminated materials into the water column during dredging.   | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program | <i>Responsibility:</i> Port<br><i>Timing:</i> Throughout the dredging process       |                      |
| Prioritize material not suited for unconfined aquatic disposal so that construction reuse would be the first priority, followed by landfill disposal, and then confined aquatic disposal to mitigate impacts to water quality from disposal or reuse of contaminated dredged material.   | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program | <i>Responsibility:</i> Port<br><i>Timing:</i> Throughout the dredging process       |                      |
| Evaluate and adopt special precautions and measures prior to filling the Oakland Middle Harbor and select and implement the appropriate methods and technologies for filling suitable to site-specific conditions and in accordance with future permit requirements to mitigate impacts to water quality from filling.   | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program | <i>Responsibility:</i> Port<br><i>Timing:</i> Throughout the filling process        |                      |
| <i>Geology and Soils</i>   |              |   |   |                      |
| Use design features for dikes and fills that reduce the potential for slope or ground failure to mitigate damage to new structures, roads, and utilities from earthquakes. Specific mitigation measures will be identified as part of future, project-level environmental documentation.   | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program | None required   |                      |
| Design new structures and facilities using the results of geotechnical studies to prevent injuries and loss of life, prevent environmental damage, maintain emergency services, and minimize construction and replacement cost to mitigate impacts from earthquakes. Specific mitigation measures will be identified as part of future, project-level environmental documentation. | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program | None required   |                      |
| Design and locate facilities used for storing or handling hazardous materials to minimize impacts from releases during an earthquake. Specific mitigation measures will be identified as part of future, project-level environmental documentation.  | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program | None required   |                      |
| Incorporate the recommendations of a geotechnical engineer when designing and locating facilities to mitigate impacts to shoreline slopes, foundations, structures, and utilities from liquefaction. Specific mitigation measures will be identified as part of future, project-level environmental documentation.   | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program | None required   |                      |

**ATTACHMENT 1 (cont'd):**  
**Port of Oakland Vision 2000 Program Final EIR Mitigation Monitoring Program Checklist**

| Mitigation Measure   | Alternatives | Implementation   | Monitoring   | Confirmation/Comment |
|--|--------------|--|--|----------------------|
| <i>Geology and Soils (cont'd)</i>  |              |  |  |                      |
| Evaluate in geotechnical studies of the site the potential for settlement of fills to mitigate any impacts from settlement. Specific mitigation measures will be identified as part of future, project-level environmental documentation.  | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program            | None required  |                      |
| Maintain original elevations of the filled habitat area despite any settlement to mitigate impacts to habitat changes from settlement. Periodically evaluate the habitat to determine whether settlement changes are adverse, beneficial, or neutral with respect to the long-term objectives of the habitat and take corrective action as needed. | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program            | <i>Responsibility:</i> Port<br><i>Timing:</i> As determined by geotechnical engineer |                      |
| Incorporate the recommendations of a geotechnical engineer when designing and locating facilities to mitigate impacts to foundations, structural supports, and horizontal features from differential settlement. Specific mitigation measures will be identified as part of future, project-level environmental documentation.                     | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program            | None required  |                      |
| <i>Traffic</i>   |              |  |  |                      |
| Restripe the east and westbound 3 <sup>rd</sup> Street approaches to Middle Harbor Road, converting the combination left/through lanes to left turn only to mitigate impacts to traffic congestion at the intersection of 3 <sup>rd</sup> Street and Adeline.  | A, B, C, D   | <i>Responsibility:</i> City of Oakland<br><i>Timing:</i> As a component of the Vision 2000 Program | None required  |                      |
| <i>Air Quality</i>   |              |  |  |                      |
| There is no feasible measure to mitigate impacts to air quality from increased transportation activity.  | A, B, C, D   | N/A  | N/A  | N/A                  |
| Implement dust control measures to mitigate impact to air quality from dust and PM <sub>10</sub> emissions during construction and demolition activity.  | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program            | <i>Responsibility:</i> Port<br><i>Timing:</i> Throughout construction phase          |                      |
| <i>Noise</i>   |              |  |  |                      |
| No impacts, no mitigation measures required.   | N/A          | N/A  | N/A  | N/A                  |
| <i>Utilities</i>   |              |  |  |                      |
| No impacts, no mitigation measures required.   | N/A          | N/A  | N/A  | N/A                  |

**ATTACHMENT 1 (cont'd):**  
**Port of Oakland Vision 2000 Program Final EIR Mitigation Monitoring Program Checklist**

| Mitigation Measure  | Alternatives | Implementation  | Monitoring    | Confirmation/Comment |
|---|--------------|---|---------------|----------------------|
| <i>Hazardous Materials and Waste</i>  |              |   |               |                      |
| Investigate and identify the extent of PCB-containing equipment at unsurveyed portions of the project site. Ensure compliance with applicable local, state, and federal regulations regarding the management and proper disposal of any identified PCB-containing equipment or PCB contamination. Specific mitigation measures will be identified as part of future, project-level environmental documentation. | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program | None required |                      |
| Investigate and identify the location of USTs and ASTs at unsurveyed portions of the project site. Ensure compliance with applicable local, state, and federal regulations regarding the removal and management of any identified tanks. Specific mitigation measures will be identified as part of future, project-level environmental documentation.  | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program | None required |                      |
| Investigate and identify the location of OWSs and waste impoundments at unsurveyed portions of the project site. Ensure compliance with applicable local, state, and federal regulations regarding OWS and waste impoundment management. Specific mitigation measures will be identified as part of future, project-level environmental documentation.  | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program | None required |                      |
| Investigate and identify the location of all historic industrial operations and structures at the project site. Ensure compliance with applicable local, state, and federal regulations regarding the management of hazardous materials and waste caused by historic land use. Specific mitigation measures will be identified as part of future, project-level environmental documentation.                    | A, B, C, D   | <i>Responsibility:</i> Port<br><i>Timing:</i> As a component of the Vision 2000 Program | None required |                      |

*Alternatives:*

- A: Maximum Marine Terminal/ Maximum Rail Terminal Alternative
- B: Minimum Marine Terminal/Minimum Rail Terminal Alternative
- C: Maximum Marine Terminal/Minimum Rail Terminal Alternative
- D: Reduced Harbor Fill Alternative

**ATTACHMENT 2: VERIFICATION REPORT**

Date: \_\_\_\_\_ Arrival Time: \_\_\_\_\_ Departure Time: \_\_\_\_\_

Location: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Discipline:

☐ History☐ Transportation Planning☐ Civil Engineering☐ Environmental Planning☐ Environmental Science

Construction Sheet Number: \_\_\_\_\_

Condition: \_\_\_\_\_

Compliance:

☐ Acceptable☐ Unacceptable☐ Delay Activity☐ Remedial Action Implemented☐ Work Stop☐ Follow-up Conference RequiredActivity: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_Observations: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_Recommendations: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

By: \_\_\_\_\_ Report Approval: \_\_\_\_\_

Receipt by Project Supervisor:

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments/Actions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Copies to: \_\_\_\_\_

Date Entered to Environmental Monitoring File: \_\_\_\_\_

By: \_\_\_\_\_



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FISCO/Vision 2000



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## APPENDIX N AIR QUALITY MODELING

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# Appendix N

## Air Quality Modeling

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### N.1. Introduction

Technical discussion of air pollution issues requires an understanding of terms that have a technical meaning. It is especially important to understand the distinction between air pollutant emissions and ambient air quality. The term "pollutant emissions" refers to the amount (usually stated as a weight) of one or more specific compounds introduced into the atmosphere by a source or group of sources.

In practice, most pollutant emissions data are presented as "emission rates": the amount of pollutants emitted during a specified increment of time or during a specified increment of emission source activity. Typical measurement units for emission rates on a time basis include pounds per hour, pounds per day, or tons per year. Typical measurement units for emission rates on a source activity basis include pounds per thousand gallons of fuel burned, pounds per ton of material processed, and grams per vehicle mile of travel.

The term "ambient air quality" refers to the atmospheric concentration of a specific compound (amount of pollutants in a specified volume of air) actually experienced at a particular geographic location that may be some distance from the source of the relevant pollutant emissions. The ambient air quality levels actually measured at a particular location are determined by the interactions among three groups of factors:

- emissions: the types, amounts, and locations of pollutants emitted into the atmosphere;
- meteorology: the physical processes affecting the distribution, dilution, and removal of these pollutants; and
- chemistry: any chemical reactions that transform pollutant emissions into other chemical substances.

Ambient air quality data are generally reported as a mass per unit volume (e.g., micrograms per cubic meter of air) or as a volume fraction (e.g., parts per million by volume).



Air pollutants are often characterized as being "primary" or "secondary" pollutants. Primary pollutants are those emitted directly into the atmosphere (such as carbon monoxide, sulfur dioxide, lead particulates, and hydrogen sulfide). Secondary pollutants are those (such as ozone, nitrogen dioxide, and sulfate particles) formed through chemical reactions in the atmosphere; these chemical reactions usually involve primary pollutants, normal constituents of the atmosphere, and other secondary pollutants.

Those compounds which react to form secondary pollutants are often referred to as reactive pollutants, pollutant precursors, or precursor emission products. Some air pollutants (such as many organic gases and suspended particulate matter) are a combination of primary and secondary pollutants.

The distinction between primary and secondary pollutants is more than a matter of semantics; important air quality management implications are also involved. The ambient concentration of primary pollutants depends on the spatial concentration of the emission sources, the rate of pollutant emissions, and the degree to which the emitted pollutants are dispersed or removed from the atmosphere between the emission source and the location of interest.

Air quality problems involving primary pollutants (such as carbon monoxide) can usually be traced to a single pollutant source or a concentrated group of sources emitting large quantities of the pollutant. Additionally, the responsible emission source will usually be relatively close to the location of the air quality problem. The distance between the emission source and the location of a ground-level air quality problem depends largely on the height at which the emissions are released into the atmosphere.

When an air quality problem involves a secondary pollutant (such as ozone), the spatial relationship between emission sources and ambient air quality problems becomes much more complicated. Because secondary pollutants are not emitted directly into the atmosphere, observed ambient concentrations may not show a clear correlation with the spatial distribution of sources emitting the pollutant precursors. The time factor involved in the chemical reactions producing secondary pollutants allows emissions from numerous sources to become dispersed and mixed together. As a result, the observed ambient pollutant concentrations are due as much to the cumulative areawide emissions of precursors as to the spatial concentration of emission sources.

Two types of air quality analyses have been used in this EIS/EIR to quantify potential air quality impacts: dispersion modeling analyses to evaluate potential carbon monoxide concentrations, and emissions estimates to evaluate the significance of other pollutant emissions from vehicle traffic, locomotives, and cargo ships. Dispersion modeling and emission estimates for vehicle traffic both depend on the use of vehicle emission rates derived from the EMFAC7F vehicle emission rate model. However, emission rates for use in a dispersion modeling analysis are generated using different assumptions than those used for estimating regional emission quantities.

Emission rates for dispersion modeling analyses represent point estimates of vehicle operating conditions, while those used for ozone precursor evaluations reflect

cumulative patterns of vehicle conditions over an entire trip. The following sections discuss the specific procedures used for the dispersion modeling and ozone precursor analyses.

## **N.2. Carbon Monoxide Dispersion Modeling Procedures**

Predicting the ambient air quality impacts of pollutant emissions requires consideration of the transport, dispersion, chemical transformation, and removal processes which affect pollutant emissions after their release from a source. Gaussian dispersion models are frequently used for such analyses. The term "gaussian dispersion" refers to a general type of mathematical equation used to describe the horizontal and vertical distribution of pollutants downwind from an emission source.

Gaussian dispersion models treat pollutant emissions as being carried downwind in a defined plume, subject to horizontal and vertical mixing with the surrounding atmosphere. The plume spreads horizontally and vertically with a reduction in pollutant concentrations as it travels downwind. Mixing with the surrounding atmosphere is greatest at the edge of the plume, resulting in lower pollutant concentrations outward (horizontally and vertically) from the center of the plume. This decrease in concentration outward from the center of the plume is treated as following a gaussian ("normal") statistical distribution. Horizontal and vertical mixing generally occur at different rates. Because turbulent motions in the atmosphere occur on a variety of spatial and time scales, vertical and horizontal mixing also vary with distance downwind from the emission source.

Dispersion models calculate pollutant concentrations at particular locations ("receptors" in modeling jargon) by applying appropriate horizontal and vertical dispersion factor equations to the initial pollutant concentration. The proper dispersion factor equations are determined from the spatial position of the receptor relative to the emission source location and the centerline of the pollutant plume extending downwind from the emission source.

When more than one emission source affects a particular receptor location, the total pollutant concentration at the receptor is the sum to the individual pollutant increments contributed by each emission source.

The reference to "pollution plumes" implies an analogy to physically mixing fluids (air in this case) with different pollutant concentrations. That would seem to suggest that the pollution concentration at a given location would be the average, not the sum, of the incremental concentrations from each overlapping plume. Despite the use of "pollution plume" terminology, the fluid mixing analogy is inappropriate in the context of atmospheric dispersion models.

The flaw in the fluid mixing analogy involves the total volume of fluid present as additional emission source contributions are added. The volume of "carrier fluid" (air) at a receptor point remains constant regardless of the number of overlapping pollution plumes affecting the site.

The faulty fluid mixing analogy can be visualized as pouring buckets of water with different salt concentrations into an empty swimming pool. The resulting pollutant (salt) concentration is the weighted average of the concentrations in the incremental

additions of salty water. The actual situation with atmospheric dispersion modeling is more like pouring different sized jars of salt into a swimming pool already filled with water. The resulting pollutant (salt) concentration is the sum of the effects of the incremental additions of salt.

In more technical terms, atmospheric dispersion models operate by simulating the spatial distribution of pollutant molecules, rather than simulating the mixing of fluids per se. The pollution plume terminology that leads to confusion is, however, too thoroughly ingrained in the modeling literature to change.

Dispersion modeling analyses for this EIS/EIR used the CALINE4 dispersion model and vehicle emission rates derived from the California Air Resources Board's EMFAC7F vehicle emission rate model.

#### **N.2.1. The CALINE4 Model**

CALINE4 (Benson, 1989) is a gaussian dispersion model developed by the California Department of Transportation to evaluate ambient air quality conditions near highways. Modeled highway links are analyzed in the model as a sequence of short segments. Each segment of a highway link is treated as a separate emission source producing a plume of pollutants which disperses downwind. Pollutant concentrations at any specific location are calculated as the total contribution from overlapping pollution plumes originating from the sequence of roadway segments.

The CALINE4 model employs a "mixing cell" approach to estimating pollutant concentrations over the roadway itself. Vertical dispersion of pollutants above the roadway is assumed to be dominated by mechanical turbulence from moving vehicles and convective mixing due to the temperature of vehicle exhaust gases. In this situation, the vertical limit of mixing (i.e., the height of the mixing cell) becomes a function of pollutant residence time within the mixing cell. Residence time depends on mixing cell width, wind angle relative to the mixing cell, and wind speed. The width of the mixing cell over each roadway segment is based on the width of the traffic lanes of the highway plus an additional vehicle-induced turbulence zone on either side. Parking lanes and roadway shoulders are not counted as traffic lanes.

The CALINE4 model computes an initial vertical dispersion parameter to characterize the vertical profile of pollutant concentrations over the roadway. Pollutant concentrations downwind from the mixing cell are then calculated using horizontal and vertical dispersion rates which are a function of various meteorological and ground surface conditions.

When winds are essentially parallel to a highway link, pollution plumes from all roadway segments overlap. This produces high concentrations near the roadway (near the center of the overlapping pollution plumes), and low concentrations well away from the highway (at the edges of the overlapping pollution plumes). When winds are at an angle to the highway link, pollution plumes from distant roadway segments make essentially no contribution to the pollution concentration observed at a receptor location. Under such cross-wind situations, pollutant concentrations near the highway are lower than under parallel wind conditions (fewer overlapping plume contributions), while pollutant concentrations away from the highway may be greater than would occur with parallel winds (near the center of at least some pollution plumes).



The CALINE4 model was originally released in 1984. Minor program revisions were made in 1988 and 1989. One of the program revisions made in 1989 introduced an altitude-based air pressure correction factor into the equation that converts air quality units from micrograms per cubic meter to parts per million by volume. By definition, such unit conversions should be done for 25 degrees Celsius and 1 atmosphere pressure (for proper comparison to federal and state ambient air quality standards). Actual ambient monitoring data must be corrected for temperature and pressure effects of actual ambient temperature and pressure. But the reverse procedure of adjusting modeling results to study area ambient temperature and air pressure should not be used.

The CALINE4 source code used for this EIS/EIR was reprogrammed to ignore study area altitude and air temperature, and to perform the correct unit conversion calculations. The CALINE4 source code was also modified to increase the number of roadway links and receptors that could be modeled in a single run, and to generate a summary table with the total carbon monoxide concentration at each receptor under each meteorological scenario.

All CALINE4 modeling conducted for this EIS/EIR used the model in the standard link run mode. Excess idling emissions at congested intersections were addressed through a simple emission rate adjustment procedure (Sculley 1989). The intersection link option in CALINE4 was not used.

#### ***N.2.1.1. Roadway and Traffic Conditions***

The highway network modeled for this EIS/EIR included:

- I-80 from the Bay Bridge through the 80/580/880 distribution structure;
- I-580 between I-80 and I-980;
- I-880 from east of I-980 to I-80;
- I-980 from I-880 to I-580;
- Maritime Street;
- 7th Street and the 7th Street extension to Maritime Street;
- Middle Harbor Road;
- West Grand Avenue from Peralta Street to I-80;
- the new frontage road east of I-880, south of West Grand Avenue; and
- short sections of Adeline Street and Union Street at the ramps to I-880.

Roadway coordinates were scaled from available highway maps. Most roadways were modeled as multiple link segments to reflect changes in roadway alignment and traffic volumes. The overall roadway network was modeled as a system of 51 roadway links.



Surface streets were modeled as at-grade roadways. Most of the freeway links were modeled as bridge links, with relative elevations ranging from 5 feet to 60 feet (CH2M Hill 1990). Most mixing zone widths were based on a 5-foot turbulence zone on each side of the roadway, 12-foot lane widths for surface streets, and 15-foot lane widths (to account for center median widths) for the freeways.

Modeled traffic volumes were based on 2010 afternoon peak hour conditions for the No Action Alternative and the Maximum Marine/Maximum Rail, Minimum Marine/Minimum Rail, Maximum Marine/Minimum Rail, and Reduced Fill reuse alternatives. Modeled roadways were treated in a non-directional manner; traffic volumes and speeds in both directions were assigned to a single link. Surface street and freeway volumes were taken from link volume tables generated during traffic modeling studies conducted by Dowling Associates.

Table N-1 summarizes the roadway network used for the CALINE4 modeling analysis.

#### ***N.2.1.2. Receptor Locations***

Carbon monoxide concentrations were calculated for 26 receptor locations to cover five roadway intersections and six park sites (as part of the 4(f) evaluation). Four receptors were used around each of the five intersections: Maritime Street and Burma Road; Maritime Street and 7th Street Extension; 7th Street and I-880; Adeline Street and 3rd Street; and Adeline Street and I-880. The modeled park site locations included: Port View Park, Middle Harbor Park, Ernie Raimondi Field, Willow Mini Park, Bertha Port Playground, and Chester Street Playground.

Intersection receptor coordinates represent locations 65 feet from the centerlines of the adjacent roadways, except at Maritime Street and Burma Road where a 75-foot distance was used. Receptor coordinates were calculated from roadway link coordinates using a coordinate geometry spreadsheet. All receptor heights were set at five feet.

Table N-2 presents the receptor coordinates used for the CALINE4 modeling.

#### ***N.2.1.3. Meteorological and Surface Roughness***

All CALINE4 runs assumed a wind speed of 1.0 meters per second (2.2 mph), stable atmospheric conditions (stability class E and a horizontal wind direction fluctuation parameter of 10 degrees), and a mixing height limit of 50 meters (164 feet). Wind directions were varied in 10 degree increments to identify the situation producing the highest total pollutant concentration at each receptor location.

The CALINE4 model was run using an averaging time of 60 minutes and a surface roughness factor of 75 centimeters. No settling or deposition velocities were used. A scale factor of 0.3048 was used to convert link and receptor coordinate units from feet to meters.

#### ***N.2.1.4. Background Concentrations***

Background pollutant concentrations represent the increment of pollution levels contributed by emission sources that are not included directly in the modeling analysis. The major contributors to background carbon monoxide levels are

unmodeled surface streets and parking lots. A peak hour background concentration of 4 ppm was manually added to the modeling results for each receptor location.

#### **N.2.1.5. 8-Hour Average Carbon Monoxide Concentrations**

Potential 8-hour average carbon monoxide levels were estimated by applying a persistence factor of 79% to the maximum 1-hour carbon monoxide levels (modeled increment plus background) for each receptor location. This persistence factor was derived from the ratio of peak 8-hour versus peak 1-hour carbon monoxide concentrations reported from the Alice Street monitoring station in recent years.

#### **N.2.2. Vehicle Emission Rates**

The EMFAC7F vehicle emission rate program (California Air Resources Board 1992, 1993, 1993a, 1993b) was used to estimate carbon monoxide emission rates for vehicles operating on roadways in the study area. EMFAC7F determines vehicle emission rates based on a wide range of factors: pollutants of interest; calendar year; air temperature; mix of vehicle types; average route speed; age distribution of vehicles by type; average annual mileage accumulations by vehicle age and type; basic exhaust emission rates for new vehicles by vehicle type and model year; deterioration rates for exhaust emissions by vehicle type and accumulated mileage; and the effectiveness of vehicle inspection and maintenance programs.

EMFAC7F is designed primarily for use in generating regional and statewide emission inventories rather than roadway segment emission rates used for dispersion models. In addition, the model is structured to use default values for most input parameters. Consequently, standardized EMFAC7F output files provided by the California Air Resources Board (CARB) were placed into a spreadsheet model that performs appropriate unit conversions and composite weightings while allowing the user to vary key parameters of interest. Lookup table data in the spreadsheet version of EMFAC7F are based on 5 mph speed increments and 10 degree temperature increments. Key input data and assumptions used for the dispersion modeling analysis are discussed below.

##### **N.2.2.1. Calendar Years**

Average vehicle emission rates depend on the types and condition of vehicles operating in the area of concern. State and federal motor vehicle emission control programs are resulting in a continuing reduction in average emission rates for most types of vehicles. Average emission rates will change in the future as vehicles manufactured without sophisticated emission control systems are replaced by newer vehicles with more extensive emission control systems. Air quality analyses involving highway traffic conditions must therefore reflect vehicle emission rates for an appropriate calendar year.

The EMFAC7F program includes emission rates for calendar years from 1980 to 2020. Emission rates used for this analysis were for 2010.

##### **N.2.2.2. Air Temperature**

Vehicle emission rates for carbon monoxide vary with ambient air temperature, generally being higher at lower temperatures. Carbon monoxide problems are primarily a winter phenomenon, and tend to occur most often in the late afternoon and evening hours. A typical winter season late afternoon air temperature of 50 degrees Fahrenheit was used for all emission rates.

**N.2.2.3. Vehicle Mixes**

The EMFAC7F model contains emission rate data for several categories of vehicles, with distinctions based primarily on vehicle weight and fuel type. Different vehicle mixes were used for surface streets and freeways included in the dispersion modeling analysis. The vehicle mixes were generated by a spreadsheet model that adjusts regional vehicle registration data for alternative heavy truck fractions.

Because the modeled surface streets are important truck routes, the surface street vehicle mix was 52.67% autos, 16.71% light trucks/vans, 1.70% medium trucks/vans, 2.56% gasoline-fueled heavy trucks, 25.62% diesel-fueled heavy trucks, and 0.74% motorcycles. The freeway vehicle mix was 64.26% autos, 20.39% light trucks/vans, 2.08% medium trucks/vans, 2.58% gasoline-fueled heavy trucks, 9.79% diesel-fueled heavy trucks, and 0.90% motorcycles. The spreadsheet version of EMFAC7F uses CARB default factors to split the light and medium duty vehicle types into catalyst-equipped, noncatalyst, and diesel-fueled subtypes.

**N.2.2.4. Vehicle Operating Modes**

The EMFAC7F program recognizes three operating mode conditions for gasoline-fueled passenger vehicles. These operating modes (cold start, hot start, and hot stabilized) are a function of four factors: how long a vehicle's engine has been on; how long the vehicle was parked before the engine was started; the operating mode condition of the vehicle at the time it was previously parked; and whether the vehicle has a catalytic converter. Vehicles operating in a cold start mode have significantly higher emission rates than those operating in hot start or hot stabilized modes.

Vehicle operating mode definitions reflect the conditions of standardized test procedures used to certify that new vehicles meet applicable federal and state emission standards. By definition, the hot stabilized mode represents all vehicle operations occurring after the engine has been on for 505 seconds. The first 505 seconds of vehicle operation will be in either a cold start or a hot start mode. Cold start and hot start operating modes are distinguished by three factors: the operating mode condition of the vehicle when parked; the duration of parking preceding vehicle start-up; and the presence or absence of a catalytic converter.

Vehicles with a catalytic converter will resume operations in a cold start mode after the engine has been off for 1 hour or more. Vehicles without a catalytic converter resume operations in a cold start mode after the engine has been off for 4 hours or more. Any vehicle which is still in a cold start mode when parked will resume operations in a cold start mode regardless of the parking duration.

If a catalyst-equipped vehicle is parked for less than 1 hour, it will resume operations in a hot start mode (unless the vehicle was still in a cold start mode when it parked). If a noncatalyst vehicle is parked for a period of less than 4 hours, it will resume operations in a hot start mode.

Parking duration patterns vary by trip purpose. Work trips often begin in a cold start mode and end with a long parking duration. Shopping trips are more likely to begin in a hot start mode and end with a short or intermediate parking duration. Typical cold start and hot start patterns by trip type have been developed by the



California Department of Transportation (Caltrans) using data from statewide travel pattern surveys (California Department of Transportation 1981).

Vehicle emission rates used in a dispersion modeling analysis should reflect a point estimate of the fraction of vehicles operating in start mode conditions along various roadway segments. This can be calculated by estimating two components of the traffic flow for relevant roadway segments: the mix of trip purposes for the time period being modeled, and the fraction of vehicles that will have been in operation for more than 8.4 minutes (505 seconds). The Caltrans start mode fractions can then be applied to derive cold start and hot start fractions.

A simple spreadsheet model was used to perform the operating mode calculations for surface street and freeway traffic. Table N-3 shows the operating mode calculations for surface street traffic, and Table N-4 shows the calculations for freeway traffic. EMFAC7F emission rates were calculated using the weighted average operating mode fractions.

#### **N.2.2.5. Vehicle Speeds**

Emission rates used in the dispersion modeling analysis were calculated for various average traffic speed conditions. Afternoon peak hour traffic speeds assumed for the various roadway links are shown in Table N-1. Speeds of 25 or 35 mph were assumed for most freeway segments. Speeds of 10, 15, or 25 mph were assumed for most surface street segments.

#### **N.2.2.6. Excess Idling Emissions**

The equations used in the vehicle emission rate models incorporate coefficients representing speed-dependent patterns of vehicle idling, acceleration, cruising, and deceleration. The resulting vehicle emission rates do not represent a constant speed cruise condition. Instead, they represent a pattern of speed changes representing an overall average route speed. The amount of idling time inherent in the emission rate models increases from about 2 percent of travel time at 55 mph to 10 percent at 30 mph and to 48 percent at 5 mph (Smith and Aldrich 1977; Sculley 1989). This inherent pattern adequately accounts for congestion-related idling on most roadways that do not experience significant congestion or signalization delays.

The amount of vehicle idling occurring at congested or signalized intersections can exceed the amount of idling inherent in the vehicle emission rate models, even if low intersection approach speeds are assumed. To more adequately account for the amount of idling at congested intersections, special adjustments were made to the basic EMFAC7F emission rates for roadway links at congested intersections.

The basic idle adjustment procedure uses the length of a modeled roadway link and the assumed average vehicle speed to determine the amount of idling time inherent in the associated EMFAC7F emission rate. This idling time value can then be compared to an estimate of expected actual delay time per vehicle (based on intersection delay analyses, level-of-service estimates, or signal cycle times). If the expected actual delay per vehicle exceeds the idling time accounted for in the vehicle emission rates, an excess idling emission rate increment can be calculated and added to the basic EMFAC7F rate.



Traffic modeling studies by Dowling Associates provided an estimate of vehicle delay times for major intersections and freeway ramp areas. Table N-1 shows the delay time per vehicle assumed for each of the modeled roadway links.

The EMFAC7F model does not provide a direct calculation of idling emission rates, but idling rates can be estimated from emission rates at low average speeds. The conventional approach for estimating hot stabilized idling emission rates is to convert a 5-mph, 100% hot stabilized emission rate into a time-based rate (grams of pollutant per minute). Because of the internal structure of the EMFAC7F model, it is also necessary to calculate a cold start correction factor from 100% stabilized mode and 100% cold start mode emission rates at a speed of 16 mph.

Table N-5 shows the idling delay adjustments used for freeway links under the No Action scenario. Table N-6 shows the freeway link idling adjustments used all four of the Vision 2000 plan alternatives (Alternatives A, B, C, and D). Tables M-7 through M-11 summarize the idling delay adjustments used for surface street emission rates under the No Action Alternative and the four Vision 2000 plan alternatives.

### **N.3. Motor Vehicle Emission Estimates**

Ozone and carbon monoxide are the pollutants most strongly correlated with motor vehicle emissions. Carbon monoxide is a direct emission product resulting from fuel combustion. Ozone is not emitted directly to the atmosphere, but is formed from complex chemical reactions in the atmosphere in the presence of sunlight. The directly emitted pollutants which produce ozone through photochemical reactions fall into two groups: reactive organic compounds and nitrogen oxides. Motor vehicle emissions are a major source of both pollutant groups.

Air pollutant emissions associated with vehicle travel under the alternative reuse plans were estimated by combining appropriate vehicle emission rates and travel pattern estimates. Travel pattern estimates were developed to reflect typical trip patterns for average weekday conditions. Traffic studies conducted EIS/EIR were used as the starting point for the trip generation and travel pattern analysis.

Vehicle emission rates were calculated using the EMFAC7F vehicle emission rate model. As noted previously, the approach used to generate appropriate vehicle emission rates for an ozone precursor analysis differs somewhat from the approach used for carbon monoxide dispersion modeling. Because vehicle emission rates are nonlinear functions of speed and operating mode conditions, using single "daily average" values for key parameters can introduce significant errors into the emission estimates. A better approach is to develop distribution patterns that reflect vehicle operating conditions and speeds over an entire day.

Trip generation for each land use category was disaggregated into trip purpose components. Travel time distributions were estimated for each trip purpose category. The travel time distributions provided a mean travel time and a mean vehicle operating mode pattern. The mean travel time was then combined with a speed distribution pattern to compute appropriate weighted average travel distances and emission rates for each trip purpose. The travel distances and emission rates were then combined to produce estimated vehicle emissions for trips associated with each land use category for a particular reuse scenario.

Major steps in the analysis procedure are discussed below. Tabular summaries for most of the major steps are presented at the end of the discussion.

#### **N.3.1. Trip Generation**

Trip generation estimates presented in the EIS/EIR were developed separately for auto traffic and truck traffic, based on data provided by Jordan Woodman Dobson (for maritime facilities) and Nolte and Associates (for rail facilities). Vehicle trip estimates for employee traffic are consistent with standard trip rates for light industrial land uses (Institute of Transportation Engineering, 1991). Truck trip estimates were developed primarily from estimates of ship cargo movements and the options for rail versus truck transport of these cargoes.

#### **N.3.2. Travel Patterns**

Travel pattern estimates were developed from two components: estimated travel time distributions for various trip types, and estimated vehicle speed distributions for the same trip types. The travel time and vehicle speed distributions represent professional judgment based on regional land use patterns, regional transportation systems, existing employee residency pattern data, previous analyses of travel patterns as represented by various regional traffic models, and previous analyses of data from regional and statewide travel pattern surveys.

Table N-12 presents the trip duration patterns used for the analysis of auto trips. A limited amount of comparison information is available from travel survey data collected by federal, state, and regional agencies. Data from the 1980 census give an average home-work commute trip duration of 26 minutes for the San Francisco/Oakland (US Federal Highway Administration 1985). More recent Caltrans data also show a similar average commute trip duration (25 minutes) for the Bay Area (California Department of Transportation, 1992). The travel time distribution pattern for home-work commute trips has an average travel time (24.75 minutes) close to the Caltrans and Census estimates. Travel time distribution patterns for other trip purposes are based primarily on professional judgment.

Employee residency surveys conducted in 1993 indicate an average commute distance of about 18 miles for Port and FISCO employees (Table N-13). More limited employee travel surveys conducted for the Port of Oakland in 1995 show that more than half of the employees report a commute distance of more than 10 miles, with nearly 8% reporting a commute distance of 30 miles or more.

Truck origin destination pattern data for the Port of Oakland indicate that 71% of the Port-related truck trips begin and end in the San Francisco Bay Area, with the remaining 29% traveling to or from other parts of California or other states (N-14).

The travel distance data in Tables M-13 and M-14 were used to adjust travel time and travel speed pattern assumptions so as to generate realistic travel distance values.

#### **N.3.3. Vehicle Emission Rates**

A general discussion of the EMFAC7F vehicle emission rate model was presented in the discussion of carbon monoxide dispersion modeling procedures. The nature of ozone precursor emissions analysis procedures requires that EMFAC7F emission rates be based on:

- daily, rather than peak hour, patterns of vehicle activity;
- land use-generated vehicle trips (by trip purpose categories), rather than total traffic on particular types of roadways; and
- summer temperature patterns, rather than winter patterns.

In addition to computing the proper weighted average emission rates from EMFAC7F output files, the spreadsheet version of EMFAC7F included complete calculations of diurnal and multiday diurnal evaporative emissions. These calculations are normally performed by a separate computer model (BURDEN7F) when CARB prepares emission inventories.

Table N-15 summarizes emission rates for reactive organic compounds and nitrogen oxides. Table N-16 summarizes emission rates for PM<sub>10</sub> and carbon monoxide. Key input data and assumptions used for the vehicle emissions analysis are discussed below.

#### ***N.3.3.1. Calendar Years***

Emission rates used for this analysis represent expected vehicle mixes for 2010.

#### ***N.3.3.2. Air Temperature***

Exhaust emission rates were calculated for a mean summer day air temperature of 70 degrees Fahrenheit. Winter carbon monoxide exhaust emission rates were also calculated, using an air temperature of 50 degrees Fahrenheit. Evaporative emissions were calculated for a summer day temperature profile that varied from a low of 55 degrees Fahrenheit to a high of 80 degrees Fahrenheit. Intermediate temperatures used for computing diurnal emissions were: 58 degrees at 8 a.m., 61 degrees at 9 a.m., 71 degrees at 11 a.m., and 76 degrees at 1 p.m.

#### ***N.3.3.3. Vehicle Mixes***

Separate vehicle type mixes were used for port-related auto traffic (mostly employees) and port-related truck traffic. The auto traffic vehicle mix included 73.33% autos, 23.27% light trucks/vans, 2.37% medium trucks/vans, 0% gasoline-fueled heavy duty trucks, 0% diesel-fueled heavy duty trucks, and 1.03% motorcycles. The truck traffic vehicle mix included 5% gasoline-fueled heavy duty trucks and 95% diesel-fueled heavy duty trucks, with no other vehicle types.

#### ***N.3.3.4. Vehicle Operating Modes***

Table N-12 included the calculation of daily average vehicle operating mode conditions for the trip purpose categories use in the ozone precursor emissions analysis. The operating mode conditions were computed directly from the trip duration patterns assumed for this analysis.

#### ***N.3.3.5. Vehicle Speeds***

The speed profiles assumed for each trip purpose category are presented the tables that follow. In general, home-work trips were assumed to have a speed profile that produced an average speed of 45 mph. Work-other trips had a speed profile averaging 40 mph. Other trip types had speed profiles averaging about 35 mph.



**N.3.4. Emission Calculations for Autos and Trucks**

Emission estimates for vehicle traffic under the various alternatives are presented in the following tables. Tables M-12 through M-16 provide data used for all alternatives. Tables M-17 through M-22 provide the analysis for the No Action Alternative. Tables M-23 through M-28 provide the analysis for the Maximum Marine/Maximum Rail Alternative (referred to as Alternative A). Tables M-29 through M-34 provide the analysis for the Minimum Marine/Minimum Rail Alternative (referred to as Alternative B). Tables M-35 through M-40 provide the analysis for the Maximum Marine/Minimum Rail Alternative (referred to as Alternative C). Tables M-41 through M-46 provide the analysis for the Reduced Harbor Fill Alternative (referred to as Alternative D).

The primary emission calculation process was based on estimates of average daily vehicle trip patterns. Annual emission estimates were derived by assuming 250 working days per year.

**N.4. Locomotive Emission Estimates**

Emission estimates for rail traffic associated with the Port of Oakland have been based on data developed primarily for use in traffic impact analyses.

**N.4.1. Train Categories and Sizes**

Table N-47 summarizes the characteristics of various trains potentially using rail segments through the Bay Area. Amtrak trains pass through the West Oakland rail yard, and use portions of the rail yard for assembly and maintenance of trains. Local and long-haul freights pass through the West Oakland yard, with some trains originating from the yard. In general, 6,000-foot freights are the longest trains assembled at the West Oakland yard.

**N.4.2. Major Rail Routes**

The rail traffic data used for this analysis was developed with a focus on northwestern Alameda and western Contra Costa Counties. Rail traffic projections were made for the main rail lines north and south of the West Oakland railyard. These projections, however, did not identify ultimate destinations beyond northern Alameda or western Contra Costa Counties. To fully address emissions from rail operations, it was necessary to extrapolate the rail traffic projections to major rail routes leading out of the Bay Area toward the Sacramento Valley, San Joaquin Valley, and the Monterey Bay/Salinas Valley area. Table N-47 identifies the lengths of various main track segments in the Bay Area.

Rail traffic on the main line north of Oakland was split into Sacramento Valley and San Joaquin Valley components. Freight traffic was evenly split between these two corridors. All long (interstate) Amtrak trains were assigned to the Sacramento Valley corridor. Short (intrastate) Amtrak trains were assigned 60% to the Sacramento Valley and 40% to the San Joaquin Valley corridors.

Rail traffic on the main line south of Oakland was separated into the San Joaquin Valley and South Bay/Salinas corridors. Local freights were split evenly between San Jose area destinations and Monterey/Salinas destinations (Gilroy). All intermodal freights south of Oakland were assigned to the San Joaquin Valley corridor (via Livermore).



Projected 2010 rail traffic estimates (number of trains and gross ton-miles of rail activity) are presented in Tables M-48 (No Action), M-50 (Maximum Marine/Maximum Rail or Alternative A), M-52 (Minimum Marine/Minimum Rail or Alternative B), M-54 (Maximum Marine/Minimum Rail or Alternative C), and M-56 (Reduced Harbor Fill or Alternative D).

#### **N.4.3. Locomotive Emission Rates and Emission Estimates**

The number of locomotives used for a train depends on the total gross weight of the train and terrain conditions along the train's route. Emission rates for rail operations can be given in several different format (such as emissions per hour at different throttle settings for individual locomotives, emissions per pound of fuel burned, or emissions per gross ton-mile of train travel). Emission rates given in the EPA emission inventory guidance document (US Environmental Protection Agency, 1992) are standardized on the basis of gross train weight and distance traveled. Emission rates in this ton-mile format account for the use of multiple engines on heavy trains. Table N-47 identifies emission rates applicable to different train types and sizes.

Table N-49 presents annual rail traffic emissions for major rail segments under the No Action Alternative. Table N-51 presents rail traffic emission estimates for the Maximum Marine/Maximum Rail Alternative (Alternative A). Table N-53 presents rail emission estimates for the Minimum Marine/Minimum Rail Alternative (Alternative B). Table N-55 presents rail emission estimates for the Maximum Marine/Minimum Rail Alternative (Alternative C). And Table N-57 presents rail emission estimates for the Reduced Harbor Fill Alternative (Alternative D).

A summary comparison of rail traffic emission for the various alternatives is presented in Table N-58. Also included in Table N-58 is a summary of the net emission increases (compared to the No Action Alternative) for the four reuse plan alternatives.

### **N.5. Cargo Ship Emission Estimates**

The major types of ships using the Port of Oakland include container ships, bulk carriers, and various general cargo ship types. Ship sizes are generally specified either by physical dimensions (length and draft), or by dead weight tons (dwt). Most ships using the Port of Oakland operate with marine diesel engines. A relatively low percentage of cargo ships use steam boilers. While moored at the Port, ships provide their own electrical power and other utilities. Large diesel generators are used for this purpose by most ships. Steam powered ships often switch from heavy bunker fuels to lighter distillate oil fuel for power and utility service while moored.

#### **N.5.1. Ship Call Projections**

Table N-59 summarizes the types and sizes of cargo vessels that used the Port of Oakland in 1991 (based on data in California Air Resources Board, 1991). Container ships represented the majority of ship traffic (72%). Bulk carriers represented 17% of the ship traffic, and other cargo vessel types represented 11% of the traffic. Most ships using the Port of Oakland were less than 50 dwt in size.

Average ship sizes are expected to increase in the future, especially for container ships. The sizes of ships that use the Port of Oakland will depend largely on the depth of ship channels serving the Port. Although no specific forecasts of ship sizes

and types have been prepared for the Port of Oakland, the traffic analyses prepared for this EIS/EIR assume that average ship sizes will increase in the future.

Future ship size distributions were estimated by assuming that the percentages of container, bulk carrier, and other cargo vessel traffic will remain the same as at present, but that the size distribution of marine diesel container ships will shift toward larger average sizes. Emission forecasts for 2010 assumed that 10% of diesel container ships would be less than 25 dwt (compared to 28.1% in 1991), 65% would be 25-50 dwt (compared to 58.5% in 1991), 20% would be 50-75 dwt (compared to 10.4% in 1991, and 5% would be 75-100 dwt (compared to 3% in 1991). As noted in Table N-59, most cargo vessels remain moored at the port for 30-36 hours.

#### **N.5.2. Ship Emission Rates and Emission Estimates**

Vessel emission rates used for this analysis are summarized in Table N-60. The emission rates come primarily from California Air Resources Board (1991). Emission rates for diesel generators are from US Environmental Protection Agency (1993). Ship transit times and throttle settings for movements into and out of the Port of Oakland are from California Air Resources Board (1991). Potential fuel use rates for various ship types and sizes are presented in Table N-59. Actual average fuel use factors in Table N-60 are from California Air Resources Board (1991) and Port of Long Beach (1986). Each ship visiting the Port of Oakland makes two movements: transit from the ocean to the Port of Oakland, and transit from the Port of Oakland to the ocean.

Table N-61 presents year 2010 emission estimates for the No Action Alternative. Table N-62 presents emission estimates for the Maximum Marine/Maximum Rail Alternative (Alternative A). Table N-63 presents emission estimates for the Minimum Marine/Minimum Rail Alternative (Alternative B). Table N-64 presents emission estimates for the Maximum Marine/Minimum Rail Alternative (Alternative C). Table N-65 presents emission estimates for the Reduced Harbor Fill Alternative (Alternative D). Table N-66 provides a summary comparison of ship emissions for the various alternatives. Also included in Table N-66 is a summary of the net emission increases (compared to the No Action Alternative) for the four reuse plan alternatives.

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TABLE N-1. ROADWAY NETWORK USED FOR CALINE4 DISPERSION MODELING

| ROADWAY | SEGMENT        | LINK SEGMENT COORDINATES |      |       |       | HEIGHT<br>(feet) | SEGMENT<br>LENGTH<br>(feet) | LANES | PM PEAK HOUR VOLUMES |       |       |       | PEAK HR<br>BASE<br>SPEED | DELAY TIME PER VEHICLE (SEC) |       |       |       |       |
|---------|----------------|--------------------------|------|-------|-------|------------------|-----------------------------|-------|----------------------|-------|-------|-------|--------------------------|------------------------------|-------|-------|-------|-------|
|         |                | X1                       | Y1   | X2    | Y2    |                  |                             |       | NO ACTION            | ALT A | ALT B | ALT C | ALT D                    | NO ACT                       | ALT A | ALT B | ALT C | ALT D |
| I-80    | BAY BRIDGE     | 0                        | 5148 | 6085  | 7769  | 40               | 6625                        | 10    | 19150                | 19208 | 19223 | 19262 | 19250                    | 25                           | 50    | 50    | 50    | 50    |
|         | BTWN NEW RAMPS | 6085                     | 7769 | 8674  | 9152  | 40               | 2936                        | 6     | 6647                 | 6633  | 6672  | 6618  | 6629                     | 25                           | 20    | 20    | 20    | 20    |
|         | N OF 580       | 8674                     | 9152 | 7543  | 10937 | 30               | 2113                        | 8     | 17737                | 17801 | 17809 | 17811 | 17802                    | 25                           | 75    | 75    | 75    | 75    |
| I-880   | BRDG CONNECTOR | 6085                     | 7769 | 8850  | 7191  | 60               | 2826                        | 4     | 2250                 | 2334  | 2348  | 2331  | 2332                     | 35                           | 5     | 5     | 5     | 5     |
|         | JNCTN CNCTN 1  | 8674                     | 9152 | 9051  | 8146  | 60               | 1074                        | 4     | 4467                 | 4578  | 4537  | 4593  | 4582                     | 25                           | 30    | 30    | 30    | 30    |
|         | JNCTN CNCTN 2  | 9051                     | 8146 | 8850  | 7191  | 40               | 976                         | 4     | 4467                 | 4578  | 4537  | 4593  | 4582                     | 25                           | 30    | 30    | 30    | 30    |
|         | DESERT YARD    | 8850                     | 7191 | 7719  | 4953  | 25               | 2507                        | 6     | 5106                 | 5179  | 5066  | 5008  | 5187                     | 35                           | 15    | 15    | 15    | 15    |
|         | N OF 7TH ST    | 7719                     | 4953 | 7593  | 3897  | 20               | 1063                        | 6     | 5106                 | 5179  | 5066  | 5008  | 5187                     | 35                           | 15    | 15    | 15    | 15    |
|         | S OF 7TH ST 1  | 7593                     | 3897 | 8222  | 3243  | 5                | 907                         | 6     | 6988                 | 7295  | 7134  | 6889  | 7284                     | 35                           | 10    | 10    | 10    | 10    |
|         | S OF 7TH ST 2  | 8222                     | 3243 | 9278  | 3042  | 0                | 1075                        | 6     | 6988                 | 7295  | 7134  | 6889  | 7284                     | 35                           | 10    | 10    | 10    | 10    |
|         | W OF MANDELA   | 9278                     | 3042 | 10057 | 3344  | 20               | 836                         | 6     | 6988                 | 7295  | 7134  | 6889  | 7284                     | 35                           | 10    | 10    | 10    | 10    |
|         | W OF UNION     | 10057                    | 3344 | 10635 | 3671  | 40               | 664                         | 6     | 5884                 | 6129  | 6094  | 6044  | 6125                     | 35                           | 10    | 10    | 10    | 10    |
|         | E OF UNION     | 10635                    | 3671 | 11968 | 3696  | 60               | 1333                        | 6     | 5884                 | 6129  | 6094  | 6044  | 6125                     | 35                           | 10    | 10    | 10    | 10    |
|         | W OF 980       | 11968                    | 3696 | 13099 | 3470  | 50               | 1154                        | 6     | 5884                 | 6129  | 6094  | 6044  | 6125                     | 35                           | 10    | 15    | 15    | 15    |
|         | E OF 980       | 13099                    | 3470 | 14834 | 3168  | 40               | 1761                        | 8     | 13477                | 13720 | 13700 | 13745 | 13723                    | 25                           | 35    | 45    | 45    | 45    |
| I-980   | N OF 880 NB 1  | 13099                    | 3470 | 12747 | 3998  | 40               | 635                         | 4     | 7538                 | 7521  | 7532  | 7530  | 7521                     | 25                           | 30    | 30    | 30    | 30    |
|         | N OF 880 SB 1  | 13099                    | 3470 | 12672 | 3746  | 40               | 509                         | 4     | 3864                 | 3854  | 3860  | 3858  | 3854                     | 25                           | 30    | 30    | 30    | 30    |
|         | N OF 880 NB 2  | 12747                    | 3998 | 13024 | 5582  | 40               | 1608                        | 4     | 7538                 | 7521  | 7532  | 7530  | 7521                     | 25                           | 30    | 30    | 30    | 30    |
|         | N OF 880 SB 2  | 12672                    | 3746 | 13024 | 5582  | 40               | 1869                        | 4     | 3864                 | 3854  | 3860  | 3858  | 3854                     | 25                           | 30    | 30    | 30    | 30    |
|         | S OF BRUSH     | 13024                    | 5582 | 13125 | 6085  | 40               | 513                         | 8     | 11402                | 11375 | 11392 | 11388 | 11375                    | 25                           | 30    | 30    | 30    | 30    |
|         | N OF BRUSH     | 13125                    | 6085 | 13728 | 7442  | 40               | 1486                        | 8     | 11402                | 11375 | 11392 | 11388 | 11375                    | 25                           | 30    | 30    | 30    | 30    |
|         | S OF 580       | 13728                    | 7442 | 13577 | 9655  | 40               | 2218                        | 8     | 11402                | 11375 | 11392 | 11388 | 11375                    | 25                           | 30    | 30    | 30    | 30    |
| SR 24   | N OF 580       | 13577                    | 9655 | 13451 | 11063 | 40               | 1414                        | 8     | 12622                | 12626 | 12630 | 12630 | 12627                    | 25                           | 30    | 30    | 30    | 30    |

TABLE N-1. ROADWAY NETWORK USED FOR CALINE4 DISPERSION MODELING

| ROADWAY          | SEGMENT         | LINK SEGMENT COORDINATES |      |       |      | HEIGHT<br>(feet) | SEGMENT<br>LENGTH<br>(feet) | LANES | PM PEAK HOUR VOLUMES |       |       |       | PEAK HR<br>BASE<br>SPEED | DELAY TIME PER VEHICLE (SEC) |       |       |       |       |
|------------------|-----------------|--------------------------|------|-------|------|------------------|-----------------------------|-------|----------------------|-------|-------|-------|--------------------------|------------------------------|-------|-------|-------|-------|
|                  |                 | X1                       | Y1   | X2    | Y2   |                  |                             |       | NO ACTION            | ALT A | ALT B | ALT C | ALT D                    | NO ACT                       | ALT A | ALT B | ALT C | ALT D |
| I-580            | E OF JNCTN      | 8674                     | 9152 | 9730  | 9202 | 40               | 1057                        | 10    | 18173                | 18205 | 18195 | 18194 | 18205                    | 25                           | 45    | 45    | 45    | 45    |
|                  | W OF PERALTA    | 9730                     | 9202 | 10560 | 9630 | 40               | 933                         | 10    | 18173                | 18205 | 18195 | 18194 | 18205                    | 25                           | 45    | 45    | 45    | 45    |
|                  | W OF 980        | 10560                    | 9630 | 13577 | 9655 | 45               | 3017                        | 10    | 18173                | 18205 | 18195 | 18194 | 18205                    | 25                           | 45    | 45    | 45    | 45    |
|                  | E OF 980        | 13577                    | 9655 | 14809 | 9605 | 45               | 1233                        | 8     | 15427                | 15427 | 15429 | 15427 | 15427                    | 25                           | 45    | 45    | 45    | 45    |
| MARITIME         | S OF W GRAND    | 7543                     | 7593 | 7291  | 7166 | 0                | 496                         | 4     | 1535                 | 1515  | 1615  | 1577  | 1512                     | 10                           | 19    | 19    | 19    | 19    |
|                  | S OF BURMA RD   | 7291                     | 7166 | 6512  | 5531 | 0                | 1811                        | 4     | 1280                 | 1318  | 1347  | 1386  | 1319                     | 25                           | 10    | 10    | 10    | 9     |
|                  | S OF 14TH       | 6512                     | 5531 | 5883  | 4199 | 0                | 1473                        | 4     | 1505                 | 1740  | 1697  | 1828  | 1752                     | 25                           | 20    | 20    | 22    | 20    |
|                  | S OF 7TH ST EXT | 5883                     | 4199 | 5632  | 3696 | 0                | 562                         | 4     | 1137                 | 1372  | 1329  | 1460  | 1384                     | 10                           | 11    | 14    | 20    | 13    |
| 7TH ST           | W OF MDL HARBOR | 2891                     | 2640 | 4023  | 3017 | 0                | 1193                        | 4     |                      | 1532  | 955   | 1006  | 1579                     | 15                           | 5     | 16    | 10    | 21    |
|                  | E OF MDL HARBOR | 4023                     | 3017 | 4576  | 3495 | 0                | 731                         | 4     |                      | 1629  | 1484  | 1898  | 1676                     | 25                           | 5     | 5     | 5     | 5     |
|                  | W OF MARITIME   | 4576                     | 3495 | 5632  | 3696 | 0                | 1075                        | 4     | 1403                 | 1738  | 1649  | 1815  | 1787                     | 25                           | 5     | 5     | 5     | 5     |
|                  | E OF MARITIME   | 5632                     | 3696 | 6210  | 3797 | 0                | 587                         | 4     | 1403                 | 1846  | 1814  | 1731  | 1898                     | 25                           | 5     | 5     | 5     | 5     |
|                  | 7TH ST EXTNSN   | 5883                     | 4199 | 6210  | 3797 | 0                | 518                         | 4     | 407                  | 2375  | 1062  | 1469  | 2454                     | 10                           | 19    | 14    | 20    | 29    |
|                  | W OF 880 + RAMP | 6210                     | 3797 | 7593  | 3897 | 0                | 1387                        | 4     | 948                  | 1618  | 1236  | 1968  | 1763                     | 25                           | 5     | 5     | 5     | 5     |
|                  | E OF 880 + RAMP | 7593                     | 3897 | 9026  | 3897 | 0                | 1433                        | 4     | 1204                 | 1507  | 1505  | 1524  | 1570                     | 15                           | 19    | 18    | 18    | 19    |
| MIDDLE<br>HARBOR | S OF 7TH ST     | 4023                     | 3017 | 4727  | 2263 | 0                | 1032                        | 4     |                      | 625   | 223   | 899   | 690                      | 25                           | 5     | 5     | 5     | 5     |
|                  | W OF NEW RD     | 4727                     | 2263 | 6613  | 1961 | 0                | 1910                        | 4     | 913                  | 1003  | 426   | 1006  | 1050                     | 25                           | 5     | 5     | 5     | 5     |
|                  | E OF NEW RD     | 6613                     | 1961 | 8951  | 1634 | 0                | 2361                        | 4     | 1152                 | 625   | 1236  | 1968  | 690                      | 25                           | 5     | 5     | 5     | 5     |
|                  | EDGE OF RR YARD | 8951                     | 1634 | 10962 | 2816 | 0                | 2333                        | 4     | 1612                 | 1749  | 1628  | 1877  | 1786                     | 15                           | 19    | 32    | 32    | 46    |
|                  | S OF 3RD        | 10962                    | 2816 | 11088 | 3193 | 0                | 398                         | 4     | 1612                 | 1749  | 1628  | 1877  | 1786                     | 10                           | 38    | 64    | 64    | 92    |
| ADELINE          | S OF 880 + RAMP | 11088                    | 3193 | 11088 | 3696 | 0                | 503                         | 4     | 1321                 | 1374  | 1338  | 1414  | 1382                     | 25                           | 5     | 5     | 5     | 5     |
|                  | N OF 880 + RAMP | 11088                    | 3696 | 11088 | 4174 | 0                | 478                         | 4     | 1446                 | 1583  | 1462  | 1711  | 1620                     | 10                           | 20    | 30    | 21    | 22    |

TABLE N-1. ROADWAY NETWORK USED FOR CALINE4 DISPERSION MODELING

| ROADWAY  | SEGMENT         | LINK SEGMENT COORDINATES |      |       |      | HEIGHT<br>(feet) | SEGMENT<br>LENGTH<br>(feet) | PM PEAK HOUR VOLUMES |           |       |       |       |       | PEAK HR<br>BASE<br>SPEED | DELAY TIME PER VEHICLE (SEC) |       |       |       |       |
|----------|-----------------|--------------------------|------|-------|------|------------------|-----------------------------|----------------------|-----------|-------|-------|-------|-------|--------------------------|------------------------------|-------|-------|-------|-------|
|          |                 | X1                       | Y1   | X2    | Y2   |                  |                             | LANES                | NO ACTION | ALT A | ALT B | ALT C | ALT D |                          | NO ACT                       | ALT A | ALT B | ALT C | ALT D |
| UNION    | N OF 880 + RAMP | 10635                    | 3193 | 10635 | 3671 | 0                | 478                         | 4                    | 1000      | 1073  | 960   | 902   | 1081  | 10                       | 16                           | 17    | 16    | 16    | 17    |
|          | S OF 880 + RAMP | 10635                    | 3671 | 10635 | 4174 | 0                | 503                         | 4                    | 433       | 433   | 433   | 433   | 433   | 25                       | 5                            | 5     | 5     | 5     | 5     |
| FRONTAGE | S OF W GRAND    | 8950                     | 7141 | 8222  | 5733 | 0                | 1585                        | 4                    | 1547      | 1569  | 1650  | 1753  | 1565  | 25                       | 5                            | 5     | 5     | 5     | 5     |
|          | S OF 14TH       | 8222                     | 5733 | 7819  | 4928 | 0                | 900                         | 4                    | 512       | 706   | 717   | 836   | 778   | 25                       | 5                            | 5     | 5     | 5     | 5     |
| W GRAND  | W OF FRONTAGE   | 7543                     | 7593 | 8950  | 7141 | 0                | 1478                        | 4                    | 2213      | 2267  | 2292  | 2276  | 2340  | 25                       | 5                            | 5     | 5     | 5     | 5     |
|          | E OF FRONTAGE   | 8950                     | 7141 | 9931  | 6864 | 0                | 1019                        | 4                    | 1149      | 1031  | 1127  | 1093  | 1028  | 10                       | 22                           | 22    | 22    | 22    | 23    |



TABLE N-2. CALINE4 RECEPTOR COORDINATES

| RECEPTOR LOCATION         | X-COORD | Y-COORD | OFFSET |
|---------------------------|---------|---------|--------|
| MARITIME & BURMA, NW      | 7,262   | 7,264   | 75     |
| MARITIME & BURMA, SW      | 7,192   | 7,132   | 75     |
| MARITIME & BURMA, NE      | 7,396   | 7,197   | 75     |
| MARITIME & BURMA, SE      | 7,326   | 7,065   | 75     |
| MARITIME & 7TH ST EXT, NW | 5,868   | 4,320   | 65     |
| MARITIME & 7TH ST EXT, SW | 5,806   | 4,190   | 65     |
| MARITIME & 7TH ST EXT, NE | 5,959   | 4,208   | 65     |
| MARITIME & 7TH ST EXT, SE | 5,896   | 4,080   | 65     |
| 7TH & 880, NW             | 7,535   | 3,958   | 65     |
| 7TH & 880, SW             | 7,567   | 3,830   | 65     |
| 7TH & 880, NE             | 7,666   | 3,962   | 65     |
| 7TH & 880, SE             | 7,746   | 3,832   | 65     |
| ADELINE & 3RD, NW         | 11,023  | 3,258   | 65     |
| ADELINE & 3RD, SW         | 10,998  | 3,128   | 65     |
| ADELINE & 3RD, NE         | 11,153  | 3,258   | 65     |
| ADELINE & 3RD, SE         | 11,135  | 3,128   | 65     |
| ADELINE & 880, NW         | 11,023  | 3,743   | 65     |
| ADELINE & 880, SW         | 11,023  | 3,613   | 65     |
| ADELINE & 880, NE         | 11,153  | 3,746   | 65     |
| ADELINE & 880, SE         | 11,153  | 3,616   | 65     |
| PORT VIEW PARK            | 2,693   | 2,323   |        |
| MIDDLE HARBOR PARK        | 8,712   | 713     |        |
| ERNIE RAIMONDI FIELD      | 9,425   | 6,890   |        |
| WILLOW MINI PARK          | 9,240   | 5,729   |        |
| BERTHA PORT TOT LOT       | 8,554   | 4,330   |        |
| CHESTER STREET TOT LOT    | 9,821   | 3,515   |        |

Note: Coordinates and roadway offset distances are in feet.

TABLE N-3. OPERATING MODES FOR SURFACE STREET TRAFFIC

| TRIP<br>PURPOSE | TRIP<br>PURPOSE<br>MIX | HOT<br>STABLE<br>FRACTION |           | COLD<br>START<br>FRACTION | HOT<br>START<br>FRACTION |
|-----------------|------------------------|---------------------------|-----------|---------------------------|--------------------------|
| H-W             | 40.00%                 | 50.00%                    |           | 46.25%                    | 3.75%                    |
| H-S             | 10.00%                 | 45.00%                    |           | 28.97%                    | 26.03%                   |
| H-O             | 20.00%                 | 60.00%                    |           | 27.23%                    | 12.77%                   |
| O-W             | 20.00%                 | 50.00%                    |           | 31.20%                    | 18.80%                   |
| O-O             | 10.00%                 | 45.00%                    |           | 15.77%                    | 39.23%                   |
| CHECKSUM:       | 100.00%                | 51.00%                    | WTD MEAN: | 34.66%                    | 14.34%                   |

START MODE = FIRST 505 SECONDS OF VEHICLE TRAVEL

STABLE MODE = TRAVEL AFTER 505 SECONDS OF VEHICLE OPERATION

CATALYST FRACTION FOR LDA + LDT + MDT + MC 98.92%

|             | COLD START | HOT START |
|-------------|------------|-----------|
| CATALYST    | 34.76%     | 14.24%    |
| NONCATALYST | 25.85%     | 23.15%    |

START MODE SPLIT FACTORS:

|                 | CATALYST VEHICLES |               | NONCAT VEHICLES |               |
|-----------------|-------------------|---------------|-----------------|---------------|
| TRIP<br>PURPOSE | COLD<br>STARTS    | HOT<br>STARTS | COLD<br>STARTS  | HOT<br>STARTS |
| H-W             | 92.63%            | 7.37%         | 80.04%          | 19.96%        |
| H-S             | 52.89%            | 47.11%        | 33.61%          | 66.39%        |
| H-O             | 68.35%            | 31.65%        | 43.38%          | 56.62%        |
| O-W             | 62.64%            | 37.36%        | 40.73%          | 59.27%        |
| O-O             | 28.90%            | 71.10%        | 8.25%           | 91.75%        |
| WTD MEAN:       | 71.43%            | 28.57%        | 53.02%          | 46.98%        |

TABLE N-4. OPERATING MODES FOR FREEWAY TRAFFIC

| TRIP<br>PURPOSE | TRIP<br>PURPOSE<br>MIX | HOT<br>STABLE<br>FRACTION | COLD<br>START<br>FRACTION | HOT<br>START<br>FRACTION |
|-----------------|------------------------|---------------------------|---------------------------|--------------------------|
| H-W             | 60.00%                 | 90.00%                    | 9.25%                     | 0.75%                    |
| H-S             | 5.00%                  | 65.00%                    | 18.44%                    | 16.56%                   |
| H-O             | 10.00%                 | 80.00%                    | 13.62%                    | 6.38%                    |
| O-W             | 20.00%                 | 80.00%                    | 12.48%                    | 7.52%                    |
| O-O             | 5.00%                  | 82.50%                    | 5.02%                     | 12.48%                   |
| CHECKSUM:       | 100.00%                | 85.38%                    | WTD MEAN: 10.58%          | 4.04%                    |

START MODE = FIRST 505 SECONDS OF VEHICLE TRAVEL  
 STABLE MODE = TRAVEL AFTER 505 SECONDS OF VEHICLE OPERATION

CATALYST FRACTION FOR LDA + LDT + MDT + MC 98.92%

|             | COLD START | HOT START |
|-------------|------------|-----------|
| CATALYST    | 10.61%     | 4.02%     |
| NONCATALYST | 7.96%      | 6.67%     |

START MODE SPLIT FACTORS:

| TRIP<br>PURPOSE | CATALYST VEHICLES |               | NONCAT VEHICLES |               |
|-----------------|-------------------|---------------|-----------------|---------------|
|                 | COLD<br>STARTS    | HOT<br>STARTS | COLD<br>STARTS  | HOT<br>STARTS |
| H-W             | 92.63%            | 7.37%         | 80.04%          | 19.96%        |
| H-S             | 52.89%            | 47.11%        | 33.61%          | 66.39%        |
| H-O             | 68.35%            | 31.65%        | 43.38%          | 56.62%        |
| O-W             | 62.64%            | 37.36%        | 40.73%          | 59.27%        |
| O-O             | 28.90%            | 71.10%        | 8.25%           | 91.75%        |
| WTD MEAN:       | 79.03%            | 20.97%        | 62.60%          | 37.40%        |

TABLE N-5. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: NO PROJECT FREEWAY TRAFFIC IN 2010

| INPUT VARIABLES                       | 80-1   | 80-2   | 80-3   | 880-1  | 880-2  | 880-3  | 880-4  | 880-5  | 880-6  | 880-7  | 880-8  | 880-9  | 880-10 | 880-11 |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 25     | 25     | 25     | 35     | 25     | 25     | 35     | 35     | 35     | 35     | 35     | 35     | 35     | 35     |
| LINK LENGTH, FEET                     | 6,625  | 2,936  | 2,113  | 2,826  | 1,074  | 976    | 2,507  | 1,063  | 907    | 1,075  | 836    | 664    | 1,333  | 1,154  |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 50     | 20     | 75     | 5      | 30     | 30     | 15     | 15     | 10     | 10     | 10     | 10     | 10     | 10     |
| BASE EMISSION RATE, GM/MI             | 3.77   | 3.77   | 3.77   | 2.98   | 3.77   | 3.77   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   |
| 100% COLD START 16 MPH RATE, GM/MI    | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  |
| % CATALYST VEHICLES                   | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  |
| % NON-CATALYST COLD STARTS            | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   |
| % CATALYST COLD STARTS                | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  |
| OUTPUT                                |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| HOT STABILIZED IDLE RATE, GM/MIN      | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  |
| COLD START IDLE RATE, GM/MIN          | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 13.65  | 13.65  | 13.65  | 6.99   | 13.65  | 13.65  | 6.99   | 6.99   | 6.99   | 6.99   | 6.99   | 6.99   | 6.99   | 6.99   |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 24.66  | 10.93  | 7.87   | 3.85   | 4.00   | 3.63   | 3.41   | 1.45   | 1.24   | 1.46   | 1.14   | 0.90   | 1.82   | 1.57   |
| REQUIRED EXTRA IDLE SECONDS           | 25.34  | 9.07   | 67.13  | 1.15   | 26.00  | 26.37  | 11.59  | 13.55  | 8.76   | 8.54   | 8.86   | 9.10   | 8.18   | 8.43   |
| WEIGHTED % COLD STARTS                | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 |
| BASE EMISSION RATE, GM/MI             | 3.77   | 3.77   | 3.77   | 2.98   | 3.77   | 3.77   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 0.41   | 0.33   | 3.43   | 0.04   | 2.62   | 2.92   | 0.50   | 1.38   | 1.04   | 0.86   | 1.15   | 1.48   | 0.66   | 0.79   |
| ADJUSTED EMISSION RATE, GM/MI         | 4.18   | 4.10   | 7.20   | 3.02   | 6.39   | 6.69   | 3.48   | 4.36   | 4.02   | 3.84   | 4.13   | 4.46   | 3.64   | 3.77   |
| ADJUSTMENT FACTOR, % INCREASE         | 11.0%  | 8.9%   | 91.1%  | 1.5%   | 69.4%  | 77.5%  | 16.8%  | 46.2%  | 35.1%  | 28.8%  | 38.5%  | 49.7%  | 22.3%  | 26.5%  |



TABLE N-5. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: NO PROJECT FREEWAY TRAFFIC IN 2010

| INPUT VARIABLES                       | 880-12 | 980-1  | 980-2  | 980-3  | 980-4  | 980-5  | 980-6  | 980-7  | SR 24  | 580-1  | 580-2  | 580-3  | 580-4  |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     |
| LINK LENGTH, FEET                     | 1,761  | 635    | 509    | 1,608  | 1,869  | 513    | 1,486  | 2,218  | 1,414  | 1,057  | 933    | 3,017  | 1,233  |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 35     | 30     | 30     | 30     | 30     | 30     | 30     | 30     | 30     | 45     | 45     | 45     | 45     |
| BASE EMISSION RATE, GM/MI             | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   |
| 100% COLD START 16 MPH RATE, GM/MI    | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  |
| % CATALYST VEHICLES                   | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  |
| % NON-CATALYST COLD STARTS            | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   |
| % CATALYST COLD STARTS                | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  |
| OUTPUT                                |        |        |        |        |        |        |        |        |        |        |        |        |        |
| HOT STABILIZED IDLE RATE, GM/MIN      | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  |
| COLD START IDLE RATE, GM/MIN          | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 6.56   | 2.36   | 1.89   | 5.99   | 6.96   | 1.91   | 5.53   | 8.26   | 5.26   | 3.93   | 3.47   | 11.23  | 4.59   |
| REQUIRED EXTRA IDLE SECONDS           | 28.44  | 27.64  | 28.11  | 24.01  | 23.04  | 28.09  | 24.47  | 21.74  | 24.74  | 41.07  | 41.53  | 33.77  | 40.41  |
| WEIGHTED % COLD STARTS                | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 |
| BASE EMISSION RATE, GM/MI             | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 1.75   | 4.70   | 5.97   | 1.61   | 1.33   | 5.92   | 1.78   | 1.06   | 1.89   | 4.20   | 4.81   | 1.21   | 3.54   |
| ADJUSTED EMISSION RATE, GM/MI         | 5.52   | 8.47   | 9.74   | 5.38   | 5.10   | 9.69   | 5.55   | 4.83   | 5.66   | 7.97   | 8.58   | 4.98   | 7.31   |
| ADJUSTMENT FACTOR, % INCREASE         | 46.3%  | 124.8% | 158.3% | 42.8%  | 35.4%  | 157.0% | 47.2%  | 28.1%  | 50.2%  | 111.4% | 127.6% | 32.1%  | 94.0%  |

TABLE N-6. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: VISION 2000 PLAN FREEWAY TRAFFIC IN 2010

| INPUT VARIABLES                       | 80-1   | 80-2   | 80-3   | 880-1  | 880-2  | 880-3  | 880-4  | 880-5  | 880-6  | 880-7  | 880-8  | 880-9  | 880-10 | 880-11 |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 25     | 25     | 25     | 35     | 25     | 25     | 35     | 35     | 35     | 35     | 35     | 35     | 35     | 35     |
| LINK LENGTH, FEET                     | 6,625  | 2,936  | 2,113  | 2,826  | 1,074  | 976    | 2,507  | 1,063  | 907    | 1,075  | 836    | 664    | 1,333  | 1,154  |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 50     | 20     | 75     | 5      | 30     | 30     | 15     | 15     | 10     | 10     | 10     | 10     | 10     | 15     |
| BASE EMISSION RATE, GM/MI             | 3.77   | 3.77   | 3.77   | 2.98   | 3.77   | 3.77   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   |
| 100% COLD START 16 MPH RATE, GM/MI    | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  |
| % CATALYST VEHICLES                   | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  |
| % NON-CATALYST COLD STARTS            | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   |
| % CATALYST COLD STARTS                | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  |
| OUTPUT                                |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| HOT STABILIZED IDLE RATE, GM/MIN      | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  |
| COLD START IDLE RATE, GM/MIN          | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 13.65  | 13.65  | 13.65  | 6.99   | 13.65  | 13.65  | 6.99   | 6.99   | 6.99   | 6.99   | 6.99   | 6.99   | 6.99   | 6.99   |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 24.66  | 10.93  | 7.87   | 3.85   | 4.00   | 3.63   | 3.41   | 1.45   | 1.24   | 1.46   | 1.14   | 0.90   | 1.82   | 1.57   |
| REQUIRED EXTRA IDLE SECONDS           | 25.34  | 9.07   | 67.13  | 1.15   | 26.00  | 26.37  | 11.59  | 13.55  | 8.76   | 8.54   | 8.86   | 9.10   | 8.18   | 13.43  |
| WEIGHTED % COLD STARTS                | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 |
| BASE EMISSION RATE, GM/MI             | 3.77   | 3.77   | 3.77   | 2.98   | 3.77   | 3.77   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   | 2.98   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 0.41   | 0.33   | 3.43   | 0.04   | 2.62   | 2.92   | 0.50   | 1.38   | 1.04   | 0.86   | 1.15   | 1.48   | 0.66   | 1.26   |
| ADJUSTED EMISSION RATE, GM/MI         | 4.18   | 4.10   | 7.20   | 3.02   | 6.39   | 6.69   | 3.48   | 4.36   | 4.02   | 3.84   | 4.13   | 4.46   | 3.64   | 4.24   |
| ADJUSTMENT FACTOR, % INCREASE         | 11.0%  | 8.9%   | 91.1%  | 1.5%   | 69.4%  | 77.5%  | 16.8%  | 46.2%  | 35.1%  | 28.8%  | 38.5%  | 49.7%  | 22.3%  | 42.2%  |

TABLE N-6. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: VISION 2000 PLAN FREEWAY TRAFFIC IN 2010

| INPUT VARIABLES                       | 880-12 | 980-1  | 980-2  | 980-3  | 980-4  | 980-5  | 980-6  | 980-7  | SR 24  | 580-1  | 580-2  | 580-3  | 580-4  |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     | 25     |
| LINK LENGTH, FEET                     | 1,761  | 635    | 509    | 1,608  | 1,869  | 513    | 1,486  | 2,218  | 1,414  | 1,057  | 933    | 3,017  | 1,233  |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 45     | 30     | 30     | 30     | 30     | 30     | 30     | 30     | 30     | 45     | 45     | 45     | 45     |
| BASE EMISSION RATE, GM/MI             | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  | 11.72  |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   | 5.07   |
| 100% COLD START 16 MPH RATE, GM/MI    | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  | 17.42  |
| % CATALYST VEHICLES                   | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  |
| % NON-CATALYST COLD STARTS            | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   | 7.96   |
| % CATALYST COLD STARTS                | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  | 10.61  |
| OUTPUT                                |        |        |        |        |        |        |        |        |        |        |        |        |        |
| HOT STABILIZED IDLE RATE, GM/MIN      | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   | 0.98   |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  | 40.27  |
| COLD START IDLE RATE, GM/MIN          | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 | 3.3557 |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  | 13.65  |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 6.56   | 2.36   | 1.89   | 5.99   | 6.96   | 1.91   | 5.53   | 8.26   | 5.26   | 3.93   | 3.47   | 11.23  | 4.59   |
| REQUIRED EXTRA IDLE SECONDS           | 38.44  | 27.64  | 28.11  | 24.01  | 23.04  | 28.09  | 24.47  | 21.74  | 24.74  | 41.07  | 41.53  | 33.77  | 40.41  |
| WEIGHTED % COLD STARTS                | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  | 10.58  |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 | 1.2284 |
| BASE EMISSION RATE, GM/MI             | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   | 3.77   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 2.36   | 4.70   | 5.97   | 1.61   | 1.33   | 5.92   | 1.78   | 1.06   | 1.89   | 4.20   | 4.81   | 1.21   | 3.54   |
| ADJUSTED EMISSION RATE, GM/MI         | 6.13   | 8.47   | 9.74   | 5.38   | 5.10   | 9.69   | 5.55   | 4.83   | 5.66   | 7.97   | 8.58   | 4.98   | 7.31   |
| ADJUSTMENT FACTOR, % INCREASE         | 62.6%  | 124.8% | 158.3% | 42.8%  | 35.4%  | 157.0% | 47.2%  | 28.1%  | 50.2%  | 111.4% | 127.6% | 32.1%  | 94.0%  |



TABLE N-7. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: NO PROJECT SURFACE STREET TRAFFIC IN 2010

| INPUT VARIABLES                       | MAR-1  | MAR-2  | MAR -3 | MAR-4  | 7TH-1  | 7TH-2  | 7TH-3  | 7TH-4  | 7TH-EXT | 7TH-6  | 7TH-7 M | HRBR-1 |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|--------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 10     | 25     | 25     | 10     | 25     | 25     | 25     | 25     | 10      | 25     | 15      | 25     |
| LINK LENGTH, FEET                     | 496    | 1,811  | 1,473  | 562    | 1,193  | 731    | 1,075  | 587    | 518     | 1,387  | 1,433   | 1,032  |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 19     | 10     | 20     | 11     | 5      | 5      | 5      | 5      | 19      | 5      | 19      | 5      |
| BASE EMISSION RATE, GM/MI             | 12.02  | 6.17   | 6.17   | 12.02  | 6.17   | 6.17   | 6.17   | 6.17   | 12.02   | 6.17   | 9.02    | 6.17   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91   | 15.91  | 15.91   | 15.91  |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29    | 7.29   | 7.29    | 7.29   |
| 100% COLD START 16 MPH RATE, GM/MI    | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96   | 11.96  | 11.96   | 11.96  |
| % CATALYST VEHICLES                   | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92   | 98.92  | 98.92   | 98.92  |
| % NON-CATALYST COLD STARTS            | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85   | 25.85  | 25.85   | 25.85  |
| % CATALYST COLD STARTS                | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76   | 34.76  | 34.76   | 34.76  |
| OUTPUT                                |        |        |        |        |        |        |        |        |         |        |         |        |
| HOT STABILIZED IDLE RATE, GM/MIN      | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33    | 1.33   | 1.33    | 1.33   |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10   | 26.10  | 26.10   | 26.10  |
| COLD START IDLE RATE, GM/MIN          | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752  | 2.1752 | 2.1752  | 2.1752 |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 32.99  | 13.65  | 13.65  | 32.99  | 13.65  | 13.65  | 13.65  | 13.65  | 32.99   | 13.65  | 25.39   | 13.65  |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 11.16  | 6.74   | 5.48   | 12.64  | 4.44   | 2.72   | 4.00   | 2.19   | 11.65   | 5.16   | 16.54   | 3.80   |
| REQUIRED EXTRA IDLE SECONDS           | 7.84   | 3.26   | 14.52  | 0.00   | 0.56   | 2.28   | 1.00   | 2.81   | 7.35    | 0.00   | 2.46    | 1.20   |
| WEIGHTED % COLD STARTS                | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66   | 34.66  | 34.66   | 34.66  |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202  | 1.6202 | 1.6202  | 1.6202 |
| BASE EMISSION RATE, GM/MI             | 12.02  | 6.17   | 6.17   | 12.02  | 6.17   | 6.17   | 6.17   | 6.17   | 12.02   | 6.17   | 9.02    | 6.17   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 2.25   | 0.26   | 1.41   | 0.00   | 0.07   | 0.44   | 0.13   | 0.68   | 2.02    | 0.00   | 0.24    | 0.17   |
| ADJUSTED EMISSION RATE, GM/MI         | 14.27  | 6.43   | 7.58   | 12.02  | 6.24   | 6.61   | 6.30   | 6.85   | 14.04   | 6.17   | 9.26    | 6.34   |
| ADJUSTMENT FACTOR, % INCREASE         | 18.8%  | 4.2%   | 22.8%  | 0.0%   | 1.1%   | 7.2%   | 2.1%   | 11.1%  | 16.8%   | 0.0%   | 2.7%    | 2.7%   |



TABLE N-7. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: NO PROJECT SURFACE STREET TRAFFIC IN 2010

| INPUT VARIABLES                       | M HRBR-2 | M HRBR-3 | M HRBR-4 | M HRBR-5 | ADELIN-1 | ADELIN-2 | UNION-1 | UNION-2 | FRNTG-1 | FRNTG-2 | GRAND-1 | GRAND-2 |
|---------------------------------------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|---------|---------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 25       | 25       | 15       | 10       | 25       | 10       | 10      | 25      | 25      | 25      | 25      | 10      |
| LINK LENGTH, FEET                     | 1,910    | 2,361    | 2,333    | 398      | 503      | 478      | 478     | 503     | 1,585   | 900     | 1,478   | 1,019   |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 5        | 5        | 19       | 38       | 5        | 20       | 16      | 5       | 5       | 5       | 5       | 22      |
| BASE EMISSION RATE, GM/MI             | 6.17     | 6.17     | 9.02     | 12.02    | 6.17     | 12.02    | 12.02   | 6.17    | 6.17    | 6.17    | 6.17    | 12.02   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 15.91    | 15.91    | 15.91    | 15.91    | 15.91    | 15.91    | 15.91   | 15.91   | 15.91   | 15.91   | 15.91   | 15.91   |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 7.29     | 7.29     | 7.29     | 7.29     | 7.29     | 7.29     | 7.29    | 7.29    | 7.29    | 7.29    | 7.29    | 7.29    |
| 100% COLD START 16 MPH RATE, GM/MI    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96   | 11.96   | 11.96   | 11.96   | 11.96   | 11.96   |
| % CATALYST VEHICLES                   | 98.92    | 98.92    | 98.92    | 98.92    | 98.92    | 98.92    | 98.92   | 98.92   | 98.92   | 98.92   | 98.92   | 98.92   |
| % NON-CATALYST COLD STARTS            | 25.85    | 25.85    | 25.85    | 25.85    | 25.85    | 25.85    | 25.85   | 25.85   | 25.85   | 25.85   | 25.85   | 25.85   |
| % CATALYST COLD STARTS                | 34.76    | 34.76    | 34.76    | 34.76    | 34.76    | 34.76    | 34.76   | 34.76   | 34.76   | 34.76   | 34.76   | 34.76   |
| OUTPUT                                |          |          |          |          |          |          |         |         |         |         |         |         |
| HOT STABILIZED IDLE RATE, GM/MIN      | 1.33     | 1.33     | 1.33     | 1.33     | 1.33     | 1.33     | 1.33    | 1.33    | 1.33    | 1.33    | 1.33    | 1.33    |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 26.10    | 26.10    | 26.10    | 26.10    | 26.10    | 26.10    | 26.10   | 26.10   | 26.10   | 26.10   | 26.10   | 26.10   |
| COLD START IDLE RATE, GM/MIN          | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752  | 2.1752  | 2.1752  | 2.1752  | 2.1752  | 2.1752  |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 13.65    | 13.65    | 25.39    | 32.99    | 13.65    | 32.99    | 32.99   | 13.65   | 13.65   | 13.65   | 13.65   | 32.99   |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 7.11     | 8.79     | 26.92    | 8.95     | 1.87     | 10.75    | 10.75   | 1.87    | 5.90    | 3.35    | 5.50    | 22.92   |
| REQUIRED EXTRA IDLE SECONDS           | 0.00     | 0.00     | 0.00     | 29.05    | 3.13     | 9.25     | 5.25    | 3.13    | 0.00    | 1.65    | 0.00    | 0.00    |
| WEIGHTED % COLD STARTS                | 34.66    | 34.66    | 34.66    | 34.66    | 34.66    | 34.66    | 34.66   | 34.66   | 34.66   | 34.66   | 34.66   | 34.66   |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202  | 1.6202  | 1.6202  | 1.6202  | 1.6202  | 1.6202  |
| BASE EMISSION RATE, GM/MI             | 6.17     | 6.17     | 9.02     | 12.02    | 6.17     | 12.02    | 12.02   | 6.17    | 6.17    | 6.17    | 6.17    | 12.02   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 0.00     | 0.00     | 0.00     | 10.41    | 0.89     | 2.76     | 1.57    | 0.89    | 0.00    | 0.26    | 0.00    | 0.00    |
| ADJUSTED EMISSION RATE, GM/MI         | 6.17     | 6.17     | 9.02     | 22.43    | 7.06     | 14.78    | 13.59   | 7.06    | 6.17    | 6.43    | 6.17    | 12.02   |
| ADJUSTMENT FACTOR, % INCREASE         | 0.0%     | 0.0%     | 0.0%     | 86.6%    | 14.4%    | 23.0%    | 13.0%   | 14.4%   | 0.0%    | 4.2%    | 0.0%    | 0.0%    |

TABLE N-8. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE A SURFACE STREET TRAFFIC IN 2010

| INPUT VARIABLES                       | MAR-1  | MAR-2  | MAR -3 | MAR-4  | 7TH-1  | 7TH-2  | 7TH-3  | 7TH-4  | 7TH-EXT | 7TH-6  | 7TH-7 M | HRBR-1 |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|--------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 10     | 25     | 25     | 10     | 15     | 25     | 25     | 25     | 10      | 25     | 15      | 25     |
| LINK LENGTH, FEET                     | 496    | 1,811  | 1,473  | 562    | 1,193  | 731    | 1,075  | 587    | 518     | 1,387  | 1,433   | 1,032  |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 19     | 10     | 20     | 14     | 16     | 5      | 5      | 5      | 14      | 5      | 18      | 5      |
| BASE EMISSION RATE, GM/MI             | 12.02  | 6.17   | 6.17   | 12.02  | 9.02   | 6.17   | 6.17   | 6.17   | 12.02   | 6.17   | 9.02    | 6.17   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91   | 15.91  | 15.91   | 15.91  |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29    | 7.29   | 7.29    | 7.29   |
| 100% COLD START 16 MPH RATE, GM/MI    | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96   | 11.96  | 11.96   | 11.96  |
| % CATALYST VEHICLES                   | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92   | 98.92  | 98.92   | 98.92  |
| % NON-CATALYST COLD STARTS            | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85   | 25.85  | 25.85   | 25.85  |
| % CATALYST COLD STARTS                | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76   | 34.76  | 34.76   | 34.76  |
| OUTPUT                                |        |        |        |        |        |        |        |        |         |        |         |        |
| HOT STABILIZED IDLE RATE, GM/MIN      | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33    | 1.33   | 1.33    | 1.33   |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10   | 26.10  | 26.10   | 26.10  |
| COLD START IDLE RATE, GM/MIN          | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752  | 2.1752 | 2.1752  | 2.1752 |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 32.99  | 13.65  | 13.65  | 32.99  | 25.39  | 13.65  | 13.65  | 13.65  | 32.99   | 13.65  | 25.39   | 13.65  |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 11.16  | 6.74   | 5.48   | 12.64  | 13.77  | 2.72   | 4.00   | 2.19   | 11.65   | 5.16   | 16.54   | 3.80   |
| REQUIRED EXTRA IDLE SECONDS           | 7.84   | 3.26   | 14.52  | 1.36   | 2.23   | 2.28   | 1.00   | 2.81   | 2.35    | 0.00   | 1.46    | 1.20   |
| WEIGHTED % COLD STARTS                | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66   | 34.66  | 34.66   | 34.66  |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202  | 1.6202 | 1.6202  | 1.6202 |
| BASE EMISSION RATE, GM/MI             | 12.02  | 6.17   | 6.17   | 12.02  | 9.02   | 6.17   | 6.17   | 6.17   | 12.02   | 6.17   | 9.02    | 6.17   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 2.25   | 0.26   | 1.41   | 0.34   | 0.27   | 0.44   | 0.13   | 0.68   | 0.65    | 0.00   | 0.15    | 0.17   |
| ADJUSTED EMISSION RATE, GM/MI         | 14.27  | 6.43   | 7.58   | 12.36  | 9.29   | 6.61   | 6.30   | 6.85   | 12.67   | 6.17   | 9.17    | 6.34   |
| ADJUSTMENT FACTOR, % INCREASE         | 18.8%  | 4.2%   | 22.8%  | 2.9%   | 3.0%   | 7.2%   | 2.1%   | 11.1%  | 5.4%    | 0.0%   | 1.6%    | 2.7%   |

TABLE N-8. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE A SURFACE STREET TRAFFIC IN 2010

| INPUT VARIABLES                       | M HRBR-2 | M HRBR-3 | M HRBR-4 | M HRBR-5 | ADELIN-1 | ADELIN-2 | UNION-1 | UNION-2 | FRNTG-1 | FRNTG-2 | GRAND-1 | GRAND-2 |
|---------------------------------------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|---------|---------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 25       | 25       | 15       | 10       | 25       | 10       | 10      | 25      | 25      | 25      | 25      | 10      |
| LINK LENGTH, FEET                     | 1,910    | 2,361    | 2,333    | 398      | 503      | 478      | 478     | 503     | 1,585   | 900     | 1,478   | 1,019   |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 5        | 5        | 32       | 64       | 5        | 30       | 17      | 5       | 5       | 5       | 5       | 22      |
| BASE EMISSION RATE, GM/MI             | 6.17     | 6.17     | 9.02     | 12.02    | 6.17     | 12.02    | 12.02   | 6.17    | 6.17    | 6.17    | 6.17    | 12.02   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 15.91    | 15.91    | 15.91    | 15.91    | 15.91    | 15.91    | 15.91   | 15.91   | 15.91   | 15.91   | 15.91   | 15.91   |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 7.29     | 7.29     | 7.29     | 7.29     | 7.29     | 7.29     | 7.29    | 7.29    | 7.29    | 7.29    | 7.29    | 7.29    |
| 100% COLD START 16 MPH RATE, GM/MI    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96   | 11.96   | 11.96   | 11.96   | 11.96   | 11.96   |
| % CATALYST VEHICLES                   | 98.92    | 98.92    | 98.92    | 98.92    | 98.92    | 98.92    | 98.92   | 98.92   | 98.92   | 98.92   | 98.92   | 98.92   |
| % NON-CATALYST COLD STARTS            | 25.85    | 25.85    | 25.85    | 25.85    | 25.85    | 25.85    | 25.85   | 25.85   | 25.85   | 25.85   | 25.85   | 25.85   |
| % CATALYST COLD STARTS                | 34.76    | 34.76    | 34.76    | 34.76    | 34.76    | 34.76    | 34.76   | 34.76   | 34.76   | 34.76   | 34.76   | 34.76   |
| OUTPUT                                |          |          |          |          |          |          |         |         |         |         |         |         |
| HOT STABILIZED IDLE RATE, GM/MIN      | 1.33     | 1.33     | 1.33     | 1.33     | 1.33     | 1.33     | 1.33    | 1.33    | 1.33    | 1.33    | 1.33    | 1.33    |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 26.10    | 26.10    | 26.10    | 26.10    | 26.10    | 26.10    | 26.10   | 26.10   | 26.10   | 26.10   | 26.10   | 26.10   |
| COLD START IDLE RATE, GM/MIN          | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752  | 2.1752  | 2.1752  | 2.1752  | 2.1752  | 2.1752  |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 13.65    | 13.65    | 25.39    | 32.99    | 13.65    | 32.99    | 32.99   | 13.65   | 13.65   | 13.65   | 13.65   | 32.99   |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 7.11     | 8.79     | 26.92    | 8.95     | 1.87     | 10.75    | 10.75   | 1.87    | 5.90    | 3.35    | 5.50    | 22.92   |
| REQUIRED EXTRA IDLE SECONDS           | 0.00     | 0.00     | 5.08     | 55.05    | 3.13     | 19.25    | 6.25    | 3.13    | 0.00    | 1.65    | 0.00    | 0.00    |
| WEIGHTED % COLD STARTS                | 34.66    | 34.66    | 34.66    | 34.66    | 34.66    | 34.66    | 34.66   | 34.66   | 34.66   | 34.66   | 34.66   | 34.66   |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202  | 1.6202  | 1.6202  | 1.6202  | 1.6202  | 1.6202  |
| BASE EMISSION RATE, GM/MI             | 6.17     | 6.17     | 9.02     | 12.02    | 6.17     | 12.02    | 12.02   | 6.17    | 6.17    | 6.17    | 6.17    | 12.02   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 0.00     | 0.00     | 0.31     | 19.72    | 0.89     | 5.74     | 1.86    | 0.89    | 0.00    | 0.26    | 0.00    | 0.00    |
| ADJUSTED EMISSION RATE, GM/MI         | 6.17     | 6.17     | 9.33     | 31.74    | 7.06     | 17.76    | 13.88   | 7.06    | 6.17    | 6.43    | 6.17    | 12.02   |
| ADJUSTMENT FACTOR, % INCREASE         | 0.0%     | 0.0%     | 3.4%     | 164.1%   | 14.4%    | 47.8%    | 15.5%   | 14.4%   | 0.0%    | 4.2%    | 0.0%    | 0.0%    |



TABLE N-9. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE B SURFACE STREET TRAFFIC IN 2010

| INPUT VARIABLES                       | MAR-1  | MAR-2  | MAR -3 | MAR-4  | 7TH-1  | 7TH-2  | 7TH-3  | 7TH-4  | 7TH-EXT | 7TH-6  | 7TH-7 M | HRBR-1 |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|--------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 10     | 25     | 25     | 10     | 15     | 25     | 25     | 25     | 10      | 25     | 15      | 25     |
| LINK LENGTH, FEET                     | 496    | 1,811  | 1,473  | 562    | 1,193  | 731    | 1,075  | 587    | 518     | 1,387  | 1,433   | 1,032  |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 19     | 10     | 22     | 20     | 10     | 5      | 5      | 5      | 20      | 5      | 18      | 5      |
| BASE EMISSION RATE, GM/MI             | 12.02  | 6.17   | 6.17   | 12.02  | 9.02   | 6.17   | 6.17   | 6.17   | 12.02   | 6.17   | 9.02    | 6.17   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91   | 15.91  | 15.91   | 15.91  |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29    | 7.29   | 7.29    | 7.29   |
| 100% COLD START 16 MPH RATE, GM/MI    | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96   | 11.96  | 11.96   | 11.96  |
| % CATALYST VEHICLES                   | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92   | 98.92  | 98.92   | 98.92  |
| % NON-CATALYST COLD STARTS            | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85   | 25.85  | 25.85   | 25.85  |
| % CATALYST COLD STARTS                | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76   | 34.76  | 34.76   | 34.76  |
| OUTPUT                                |        |        |        |        |        |        |        |        |         |        |         |        |
| HOT STABILIZED IDLE RATE, GM/MIN      | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33    | 1.33   | 1.33    | 1.33   |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10   | 26.10  | 26.10   | 26.10  |
| COLD START IDLE RATE, GM/MIN          | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752  | 2.1752 | 2.1752  | 2.1752 |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 32.99  | 13.65  | 13.65  | 32.99  | 25.39  | 13.65  | 13.65  | 13.65  | 32.99   | 13.65  | 25.39   | 13.65  |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 11.16  | 6.74   | 5.48   | 12.64  | 13.77  | 2.72   | 4.00   | 2.19   | 11.65   | 5.16   | 16.54   | 3.80   |
| REQUIRED EXTRA IDLE SECONDS           | 7.84   | 3.26   | 16.52  | 7.36   | 0.00   | 2.28   | 1.00   | 2.81   | 8.35    | 0.00   | 1.46    | 1.20   |
| WEIGHTED % COLD STARTS                | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66   | 34.66  | 34.66   | 34.66  |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202  | 1.6202 | 1.6202  | 1.6202 |
| BASE EMISSION RATE, GM/MI             | 12.02  | 6.17   | 6.17   | 12.02  | 9.02   | 6.17   | 6.17   | 6.17   | 12.02   | 6.17   | 9.02    | 6.17   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 2.25   | 0.26   | 1.60   | 1.87   | 0.00   | 0.44   | 0.13   | 0.68   | 2.30    | 0.00   | 0.15    | 0.17   |
| ADJUSTED EMISSION RATE, GM/MI         | 14.27  | 6.43   | 7.77   | 13.89  | 9.02   | 6.61   | 6.30   | 6.85   | 14.32   | 6.17   | 9.17    | 6.34   |
| ADJUSTMENT FACTOR, % INCREASE         | 18.8%  | 4.2%   | 25.9%  | 15.5%  | 0.0%   | 7.2%   | 2.1%   | 11.1%  | 19.1%   | 0.0%   | 1.6%    | 2.7%   |



TABLE N-9. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE B SURFACE STREET TRAFFIC IN 2010

| INPUT VARIABLES                       | M HRBR-2 | M HRBR-3 | M HRBR-4 | M HRBR-5 | ADELIN-1 | ADELIN-2 | UNION-1 | UNION-2 | FRNTG-1 | FRNTG-2 | GRAND-1 | GRAND-2 |
|---------------------------------------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|---------|---------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 25       | 25       | 15       | 10       | 25       | 10       | 10      | 25      | 25      | 25      | 25      | 10      |
| LINK LENGTH, FEET                     | 1,910    | 2,361    | 2,333    | 398      | 503      | 478      | 478     | 503     | 1,585   | 900     | 1,478   | 1,019   |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 5        | 5        | 32       | 64       | 5        | 21       | 16      | 5       | 5       | 5       | 5       | 22      |
| BASE EMISSION RATE, GM/MI             | 6.17     | 6.17     | 9.02     | 12.02    | 6.17     | 12.02    | 12.02   | 6.17    | 6.17    | 6.17    | 6.17    | 12.02   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 15.91    | 15.91    | 15.91    | 15.91    | 15.91    | 15.91    | 15.91   | 15.91   | 15.91   | 15.91   | 15.91   | 15.91   |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 7.29     | 7.29     | 7.29     | 7.29     | 7.29     | 7.29     | 7.29    | 7.29    | 7.29    | 7.29    | 7.29    | 7.29    |
| 100% COLD START 16 MPH RATE, GM/MI    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96   | 11.96   | 11.96   | 11.96   | 11.96   | 11.96   |
| % CATALYST VEHICLES                   | 98.92    | 98.92    | 98.92    | 98.92    | 98.92    | 98.92    | 98.92   | 98.92   | 98.92   | 98.92   | 98.92   | 98.92   |
| % NON-CATALYST COLD STARTS            | 25.85    | 25.85    | 25.85    | 25.85    | 25.85    | 25.85    | 25.85   | 25.85   | 25.85   | 25.85   | 25.85   | 25.85   |
| % CATALYST COLD STARTS                | 34.76    | 34.76    | 34.76    | 34.76    | 34.76    | 34.76    | 34.76   | 34.76   | 34.76   | 34.76   | 34.76   | 34.76   |
| OUTPUT                                |          |          |          |          |          |          |         |         |         |         |         |         |
| HOT STABILIZED IDLE RATE, GM/MIN      | 1.33     | 1.33     | 1.33     | 1.33     | 1.33     | 1.33     | 1.33    | 1.33    | 1.33    | 1.33    | 1.33    | 1.33    |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 26.10    | 26.10    | 26.10    | 26.10    | 26.10    | 26.10    | 26.10   | 26.10   | 26.10   | 26.10   | 26.10   | 26.10   |
| COLD START IDLE RATE, GM/MIN          | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752  | 2.1752  | 2.1752  | 2.1752  | 2.1752  | 2.1752  |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 13.65    | 13.65    | 25.39    | 32.99    | 13.65    | 32.99    | 32.99   | 13.65   | 13.65   | 13.65   | 13.65   | 32.99   |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 7.11     | 8.79     | 26.92    | 8.95     | 1.87     | 10.75    | 10.75   | 1.87    | 5.90    | 3.35    | 5.50    | 22.92   |
| REQUIRED EXTRA IDLE SECONDS           | 0.00     | 0.00     | 5.08     | 55.05    | 3.13     | 10.25    | 5.25    | 3.13    | 0.00    | 1.65    | 0.00    | 0.00    |
| WEIGHTED % COLD STARTS                | 34.66    | 34.66    | 34.66    | 34.66    | 34.66    | 34.66    | 34.66   | 34.66   | 34.66   | 34.66   | 34.66   | 34.66   |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202  | 1.6202  | 1.6202  | 1.6202  | 1.6202  | 1.6202  |
| BASE EMISSION RATE, GM/MI             | 6.17     | 6.17     | 9.02     | 12.02    | 6.17     | 12.02    | 12.02   | 6.17    | 6.17    | 6.17    | 6.17    | 12.02   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 0.00     | 0.00     | 0.31     | 19.72    | 0.89     | 3.06     | 1.57    | 0.89    | 0.00    | 0.26    | 0.00    | 0.00    |
| ADJUSTED EMISSION RATE, GM/MI         | 6.17     | 6.17     | 9.33     | 31.74    | 7.06     | 15.08    | 13.59   | 7.06    | 6.17    | 6.43    | 6.17    | 12.02   |
| ADJUSTMENT FACTOR, % INCREASE         | 0.0%     | 0.0%     | 3.4%     | 164.1%   | 14.4%    | 25.4%    | 13.0%   | 14.4%   | 0.0%    | 4.2%    | 0.0%    | 0.0%    |

TABLE N-10. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE C SURFACE STREET TRAFFIC IN 2010

| INPUT VARIABLES                       | MAR-1  | MAR-2  | MAR -3 | MAR-4  | 7TH-1  | 7TH-2  | 7TH-3  | 7TH-4  | 7TH-EXT | 7TH-6  | 7TH-7 M | HRBR-1 |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|--------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 10     | 25     | 25     | 10     | 15     | 25     | 25     | 25     | 10      | 25     | 15      | 25     |
| LINK LENGTH, FEET                     | 496    | 1,811  | 1,473  | 562    | 1,193  | 731    | 1,075  | 587    | 518     | 1,387  | 1,433   | 1,032  |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 19     | 9      | 20     | 13     | 21     | 5      | 5      | 5      | 29      | 5      | 18      | 5      |
| BASE EMISSION RATE, GM/MI             | 12.02  | 6.17   | 6.17   | 12.02  | 9.02   | 6.17   | 6.17   | 6.17   | 12.02   | 6.17   | 9.02    | 6.17   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91   | 15.91  | 15.91   | 15.91  |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29    | 7.29   | 7.29    | 7.29   |
| 100% COLD START 16 MPH RATE, GM/MI    | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96   | 11.96  | 11.96   | 11.96  |
| % CATALYST VEHICLES                   | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92   | 98.92  | 98.92   | 98.92  |
| % NON-CATALYST COLD STARTS            | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85   | 25.85  | 25.85   | 25.85  |
| % CATALYST COLD STARTS                | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76   | 34.76  | 34.76   | 34.76  |
| OUTPUT                                |        |        |        |        |        |        |        |        |         |        |         |        |
| HOT STABILIZED IDLE RATE, GM/MIN      | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33    | 1.33   | 1.33    | 1.33   |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10   | 26.10  | 26.10   | 26.10  |
| COLD START IDLE RATE, GM/MIN          | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752  | 2.1752 | 2.1752  | 2.1752 |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 32.99  | 13.65  | 13.65  | 32.99  | 25.39  | 13.65  | 13.65  | 13.65  | 32.99   | 13.65  | 25.39   | 13.65  |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 11.16  | 6.74   | 5.48   | 12.64  | 13.77  | 2.72   | 4.00   | 2.19   | 11.65   | 5.16   | 16.54   | 3.80   |
| REQUIRED EXTRA IDLE SECONDS           | 7.84   | 2.26   | 14.52  | 0.36   | 7.23   | 2.28   | 1.00   | 2.81   | 17.35   | 0.00   | 1.46    | 1.20   |
| WEIGHTED % COLD STARTS                | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66   | 34.66  | 34.66   | 34.66  |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202  | 1.6202 | 1.6202  | 1.6202 |
| BASE EMISSION RATE, GM/MI             | 12.02  | 6.17   | 6.17   | 12.02  | 9.02   | 6.17   | 6.17   | 6.17   | 12.02   | 6.17   | 9.02    | 6.17   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 2.25   | 0.18   | 1.41   | 0.09   | 0.86   | 0.44   | 0.13   | 0.68   | 4.78    | 0.00   | 0.15    | 0.17   |
| ADJUSTED EMISSION RATE, GM/MI         | 14.27  | 6.35   | 7.58   | 12.11  | 9.88   | 6.61   | 6.30   | 6.85   | 16.80   | 6.17   | 9.17    | 6.34   |
| ADJUSTMENT FACTOR, % INCREASE         | 18.8%  | 2.9%   | 22.8%  | 0.8%   | 9.6%   | 7.2%   | 2.1%   | 11.1%  | 39.7%   | 0.0%   | 1.6%    | 2.7%   |

TABLE N-10. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE C SURFACE STREET TRAFFIC IN 2010

| INPUT VARIABLES                       | M HRBR-2 | M HRBR-3 | M HRBR-4 | M HRBR-5 | ADELIN-1 | ADELIN-2 | UNION-1 | UNION-2 | FRNTG-1 | FRNTG-2 | GRAND-1 | GRAND-2 |
|---------------------------------------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|---------|---------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 25       | 25       | 15       | 10       | 25       | 10       | 10      | 25      | 25      | 25      | 25      | 10      |
| LINK LENGTH, FEET                     | 1,910    | 2,361    | 2,333    | 398      | 503      | 478      | 478     | 503     | 1,585   | 900     | 1,478   | 1,019   |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 5        | 5        | 46       | 92       | 5        | 22       | 16      | 5       | 5       | 5       | 5       | 22      |
| BASE EMISSION RATE, GM/MI             | 6.17     | 6.17     | 9.02     | 12.02    | 6.17     | 12.02    | 12.02   | 6.17    | 6.17    | 6.17    | 6.17    | 12.02   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 15.91    | 15.91    | 15.91    | 15.91    | 15.91    | 15.91    | 15.91   | 15.91   | 15.91   | 15.91   | 15.91   | 15.91   |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 7.29     | 7.29     | 7.29     | 7.29     | 7.29     | 7.29     | 7.29    | 7.29    | 7.29    | 7.29    | 7.29    | 7.29    |
| 100% COLD START 16 MPH RATE, GM/MI    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96   | 11.96   | 11.96   | 11.96   | 11.96   | 11.96   |
| % CATALYST VEHICLES                   | 98.92    | 98.92    | 98.92    | 98.92    | 98.92    | 98.92    | 98.92   | 98.92   | 98.92   | 98.92   | 98.92   | 98.92   |
| % NON-CATALYST COLD STARTS            | 25.85    | 25.85    | 25.85    | 25.85    | 25.85    | 25.85    | 25.85   | 25.85   | 25.85   | 25.85   | 25.85   | 25.85   |
| % CATALYST COLD STARTS                | 34.76    | 34.76    | 34.76    | 34.76    | 34.76    | 34.76    | 34.76   | 34.76   | 34.76   | 34.76   | 34.76   | 34.76   |
| OUTPUT                                |          |          |          |          |          |          |         |         |         |         |         |         |
| HOT STABILIZED IDLE RATE, GM/MIN      | 1.33     | 1.33     | 1.33     | 1.33     | 1.33     | 1.33     | 1.33    | 1.33    | 1.33    | 1.33    | 1.33    | 1.33    |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 26.10    | 26.10    | 26.10    | 26.10    | 26.10    | 26.10    | 26.10   | 26.10   | 26.10   | 26.10   | 26.10   | 26.10   |
| COLD START IDLE RATE, GM/MIN          | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752  | 2.1752  | 2.1752  | 2.1752  | 2.1752  | 2.1752  |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 13.65    | 13.65    | 25.39    | 32.99    | 13.65    | 32.99    | 32.99   | 13.65   | 13.65   | 13.65   | 13.65   | 32.99   |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 7.11     | 8.79     | 26.92    | 8.95     | 1.87     | 10.75    | 10.75   | 1.87    | 5.90    | 3.35    | 5.50    | 22.92   |
| REQUIRED EXTRA IDLE SECONDS           | 0.00     | 0.00     | 19.08    | 83.05    | 3.13     | 11.25    | 5.25    | 3.13    | 0.00    | 1.65    | 0.00    | 0.00    |
| WEIGHTED % COLD STARTS                | 34.66    | 34.66    | 34.66    | 34.66    | 34.66    | 34.66    | 34.66   | 34.66   | 34.66   | 34.66   | 34.66   | 34.66   |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202  | 1.6202  | 1.6202  | 1.6202  | 1.6202  | 1.6202  |
| BASE EMISSION RATE, GM/MI             | 6.17     | 6.17     | 9.02     | 12.02    | 6.17     | 12.02    | 12.02   | 6.17    | 6.17    | 6.17    | 6.17    | 12.02   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 0.00     | 0.00     | 1.17     | 29.75    | 0.89     | 3.36     | 1.57    | 0.89    | 0.00    | 0.26    | 0.00    | 0.00    |
| ADJUSTED EMISSION RATE, GM/MI         | 6.17     | 6.17     | 10.19    | 41.77    | 7.06     | 15.38    | 13.59   | 7.06    | 6.17    | 6.43    | 6.17    | 12.02   |
| ADJUSTMENT FACTOR, % INCREASE         | 0.0%     | 0.0%     | 12.9%    | 247.5%   | 14.4%    | 27.9%    | 13.0%   | 14.4%   | 0.0%    | 4.2%    | 0.0%    | 0.0%    |



TABLE N-11. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE D SURFACE STREET TRAFFIC IN 2010

| INPUT VARIABLES                       | MAR-1  | MAR-2  | MAR -3 | MAR-4  | 7TH-1  | 7TH-2  | 7TH-3  | 7TH-4  | 7TH-EXT | 7TH-6  | 7TH-7 M | HRBR-1 |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|--------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 10     | 25     | 25     | 10     | 15     | 25     | 25     | 25     | 10      | 25     | 15      | 25     |
| LINK LENGTH, FEET                     | 496    | 1,811  | 1,473  | 562    | 1,193  | 731    | 1,075  | 587    | 518     | 1,387  | 1,433   | 1,032  |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 19     | 9      | 20     | 14     | 17     | 5      | 5      | 5      | 15      | 5      | 19      | 5      |
| BASE EMISSION RATE, GM/MI             | 12.02  | 6.17   | 6.17   | 12.02  | 9.02   | 6.17   | 6.17   | 6.17   | 12.02   | 6.17   | 9.02    | 6.17   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91  | 15.91   | 15.91  | 15.91   | 15.91  |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29   | 7.29    | 7.29   | 7.29    | 7.29   |
| 100% COLD START 16 MPH RATE, GM/MI    | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96  | 11.96   | 11.96  | 11.96   | 11.96  |
| % CATALYST VEHICLES                   | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92  | 98.92   | 98.92  | 98.92   | 98.92  |
| % NON-CATALYST COLD STARTS            | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85  | 25.85   | 25.85  | 25.85   | 25.85  |
| % CATALYST COLD STARTS                | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76  | 34.76   | 34.76  | 34.76   | 34.76  |
| OUTPUT                                |        |        |        |        |        |        |        |        |         |        |         |        |
| HOT STABILIZED IDLE RATE, GM/MIN      | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33   | 1.33    | 1.33   | 1.33    | 1.33   |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10  | 26.10   | 26.10  | 26.10   | 26.10  |
| COLD START IDLE RATE, GM/MIN          | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752 | 2.1752  | 2.1752 | 2.1752  | 2.1752 |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 32.99  | 13.65  | 13.65  | 32.99  | 25.39  | 13.65  | 13.65  | 13.65  | 32.99   | 13.65  | 25.39   | 13.65  |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 11.16  | 6.74   | 5.48   | 12.64  | 13.77  | 2.72   | 4.00   | 2.19   | 11.65   | 5.16   | 16.54   | 3.80   |
| REQUIRED EXTRA IDLE SECONDS           | 7.84   | 2.26   | 14.52  | 1.36   | 3.23   | 2.28   | 1.00   | 2.81   | 3.35    | 0.00   | 2.46    | 1.20   |
| WEIGHTED % COLD STARTS                | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66  | 34.66   | 34.66  | 34.66   | 34.66  |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202 | 1.6202  | 1.6202 | 1.6202  | 1.6202 |
| BASE EMISSION RATE, GM/MI             | 12.02  | 6.17   | 6.17   | 12.02  | 9.02   | 6.17   | 6.17   | 6.17   | 12.02   | 6.17   | 9.02    | 6.17   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 2.25   | 0.18   | 1.41   | 0.34   | 0.39   | 0.44   | 0.13   | 0.68   | 0.92    | 0.00   | 0.24    | 0.17   |
| ADJUSTED EMISSION RATE, GM/MI         | 14.27  | 6.35   | 7.58   | 12.36  | 9.41   | 6.61   | 6.30   | 6.85   | 12.94   | 6.17   | 9.26    | 6.34   |
| ADJUSTMENT FACTOR, % INCREASE         | 18.8%  | 2.9%   | 22.8%  | 2.9%   | 4.3%   | 7.2%   | 2.1%   | 11.1%  | 7.7%    | 0.0%   | 2.7%    | 2.7%   |



TABLE N-11. EMISSION FACTOR ADJUSTMENTS FOR EXTENDED ENGINE IDLING TIME: ALTERNATIVE D SURFACE STREET TRAFFIC IN 2010

| INPUT VARIABLES                       | M HRBR-2 | M HRBR-3 | M HRBR-4 | M HRBR-5 | ADELIN-1 | ADELIN-2 | UNION-1 | UNION-2 | FRNTG-1 | FRNTG-2 | GRAND-1 | GRAND-2 |
|---------------------------------------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|---------|---------|
| SPEED (MPH) FOR BASE EMISSION RATE    | 25       | 25       | 15       | 10       | 25       | 10       | 10      | 25      | 25      | 25      | 25      | 10      |
| LINK LENGTH, FEET                     | 1,910    | 2,361    | 2,333    | 398      | 503      | 478      | 478     | 503     | 1,585   | 900     | 1,478   | 1,019   |
| DELAY PER VEHICLE, SECONDS OF IDLE    | 5        | 5        | 36       | 72       | 5        | 31       | 17      | 5       | 5       | 5       | 5       | 23      |
| BASE EMISSION RATE, GM/MI             | 6.17     | 6.17     | 9.02     | 12.02    | 6.17     | 12.02    | 12.02   | 6.17    | 6.17    | 6.17    | 6.17    | 12.02   |
| 100% STABILIZED 5 MPH RATE, GM/MI     | 15.91    | 15.91    | 15.91    | 15.91    | 15.91    | 15.91    | 15.91   | 15.91   | 15.91   | 15.91   | 15.91   | 15.91   |
| 100% STABILIZED 16 MPH RATE, GM/MI    | 7.29     | 7.29     | 7.29     | 7.29     | 7.29     | 7.29     | 7.29    | 7.29    | 7.29    | 7.29    | 7.29    | 7.29    |
| 100% COLD START 16 MPH RATE, GM/MI    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96    | 11.96   | 11.96   | 11.96   | 11.96   | 11.96   | 11.96   |
| % CATALYST VEHICLES                   | 98.92    | 98.92    | 98.92    | 98.92    | 98.92    | 98.92    | 98.92   | 98.92   | 98.92   | 98.92   | 98.92   | 98.92   |
| % NON-CATALYST COLD STARTS            | 25.85    | 25.85    | 25.85    | 25.85    | 25.85    | 25.85    | 25.85   | 25.85   | 25.85   | 25.85   | 25.85   | 25.85   |
| % CATALYST COLD STARTS                | 34.76    | 34.76    | 34.76    | 34.76    | 34.76    | 34.76    | 34.76   | 34.76   | 34.76   | 34.76   | 34.76   | 34.76   |
| OUTPUT                                |          |          |          |          |          |          |         |         |         |         |         |         |
| HOT STABILIZED IDLE RATE, GM/MIN      | 1.33     | 1.33     | 1.33     | 1.33     | 1.33     | 1.33     | 1.33    | 1.33    | 1.33    | 1.33    | 1.33    | 1.33    |
| ADJUSTED COLD START 5 MPH RATE, GM/MI | 26.10    | 26.10    | 26.10    | 26.10    | 26.10    | 26.10    | 26.10   | 26.10   | 26.10   | 26.10   | 26.10   | 26.10   |
| COLD START IDLE RATE, GM/MIN          | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752   | 2.1752  | 2.1752  | 2.1752  | 2.1752  | 2.1752  | 2.1752  |
| % IDLE TIME IN EMFAC/MOBILE RATES     | 13.65    | 13.65    | 25.39    | 32.99    | 13.65    | 32.99    | 32.99   | 13.65   | 13.65   | 13.65   | 13.65   | 32.99   |
| IDLE SECONDS IN EMFAC/MOBILE RATES    | 7.11     | 8.79     | 26.92    | 8.95     | 1.87     | 10.75    | 10.75   | 1.87    | 5.90    | 3.35    | 5.50    | 22.92   |
| REQUIRED EXTRA IDLE SECONDS           | 0.00     | 0.00     | 9.08     | 63.05    | 3.13     | 20.25    | 6.25    | 3.13    | 0.00    | 1.65    | 0.00    | 0.08    |
| WEIGHTED % COLD STARTS                | 34.66    | 34.66    | 34.66    | 34.66    | 34.66    | 34.66    | 34.66   | 34.66   | 34.66   | 34.66   | 34.66   | 34.66   |
| WEIGHTED COLD/HOT IDLE RATE, GM/MIN   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202   | 1.6202  | 1.6202  | 1.6202  | 1.6202  | 1.6202  | 1.6202  |
| BASE EMISSION RATE, GM/MI             | 6.17     | 6.17     | 9.02     | 12.02    | 6.17     | 12.02    | 12.02   | 6.17    | 6.17    | 6.17    | 6.17    | 12.02   |
| ADDED IDLE ADJUSTMENT, GM/MI          | 0.00     | 0.00     | 0.55     | 22.59    | 0.89     | 6.04     | 1.86    | 0.89    | 0.00    | 0.26    | 0.00    | 0.01    |
| ADJUSTED EMISSION RATE, GM/MI         | 6.17     | 6.17     | 9.57     | 34.61    | 7.06     | 18.06    | 13.88   | 7.06    | 6.17    | 6.43    | 6.17    | 12.03   |
| ADJUSTMENT FACTOR, % INCREASE         | 0.0%     | 0.0%     | 6.1%     | 187.9%   | 14.4%    | 50.2%    | 15.5%   | 14.4%   | 0.0%    | 4.2%    | 0.0%    | 0.1%    |

TABLE N-12. VEHICLE TRAVEL TIME PATTERNS AND OPERATING MODES FOR VISION 2000 ALTERNATIVES IN 2010

| DISTRIBUTION OF TRAVEL BY TRIP DURATION INTERVALS |                     |         |         |         |         |         |         |         |         |         |         |          |
|---|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| TRIP<br>TYPE                                      | PORTION<br>OF TOTAL | UNDER 8 | 8 - 10  | 10 - 15 | 15 - 20 | 20 - 25 | 25 - 30 | 30 - 35 | 35 - 40 | 40 - 45 | 45 - 50 | 50 - 120 |
|   | TRIPS               | MINUTES | MINUTES | MINUTES | MINUTES | MINUTES | MINUTES | MINUTES | MINUTES | MINUTES | MINUTES | MINUTES  |
| H-W   | 40.00%              | 10.00%  | 5.00%   | 15.00%  | 20.00%  | 15.00%  | 10.00%  | 5.00%   | 5.00%   | 5.00%   | 5.00%   | 5.00%    |
| H-S   | 0.00%               | 35.00%  | 25.00%  | 15.00%  | 12.00%  | 6.00%   | 2.00%   | 1.00%   | 1.00%   | 1.00%   | 1.00%   | 1.00%    |
| H-O   | 5.00%               | 20.00%  | 20.00%  | 25.00%  | 15.00%  | 10.00%  | 5.00%   | 1.00%   | 1.00%   | 1.00%   | 1.00%   | 1.00%    |
| O-W   | 50.00%              | 15.00%  | 10.00%  | 15.00%  | 20.00%  | 10.00%  | 10.00%  | 5.00%   | 5.00%   | 3.00%   | 3.00%   | 4.00%    |
| O-O   | 5.00%               | 17.50%  | 20.00%  | 25.00%  | 15.00%  | 10.00%  | 5.00%   | 2.50%   | 1.00%   | 1.00%   | 1.00%   | 2.00%    |
| INT TRK   | 0.00%               | 85.00%  | 10.00%  | 5.00%   | 0.00%   | 0.00%   | 0.00%   | 0.00%   | 0.00%   | 0.00%   | 0.00%   | 0.00%    |
| REG TRK   | 0.00%               | 5.00%   | 5.00%   | 5.00%   | 10.00%  | 20.00%  | 20.00%  | 10.00%  | 10.00%  | 5.00%   | 5.00%   | 5.00%    |
| EXT TRK   | 0.00%               | 0.00%   | 0.00%   | 0.00%   | 0.00%   | 0.00%   | 0.00%   | 0.00%   | 0.00%   | 0.00%   | 20.00%  | 80.00%   |
| SUM/MEAN  | 100.00%             | 13.38%  | 9.00%   | 16.00%  | 19.50%  | 12.00%  | 9.50%   | 4.68%   | 4.60%   | 3.60%   | 3.60%   | 4.15%    |

## CUMULATIVE TRIP OPERATING MODES (FOR TOTAL EMISSIONS ANALYSES):

|         | MEAN<br>TRAVEL<br>TIME<br>TYPE<br>(MINUTES) | MEAN<br>COLD<br>START<br>MODE | MEAN<br>HOT<br>START<br>MODE | MEAN<br>HOT<br>STABLE<br>MODE | NONCAT<br>COLD<br>START<br>MODE | NONCAT<br>HOT<br>START<br>MODE | CATALYST<br>COLD<br>START<br>MODE | CATALYST<br>HOT<br>START<br>MODE |        |
|---------|---|-------------------------------|------------------------------|-------------------------------|---------------------------------|--------------------------------|-----------------------------------|----------------------------------|--------|
|         |   |                               |                              |                               |                                 |                                |                                   |                                  |        |
|         | H-W   | 24.75                         | 44.52%                       | 3.61%                         | 51.86%                          | 38.53%                         | 9.61%                             | 44.59%                           | 3.55%  |
|         | H-S   | 12.50                         | 41.31%                       | 37.10%                        | 21.59%                          | 26.35%                         | 52.06%                            | 41.47%                           | 36.94% |
|         | H-O   | 14.73                         | 47.21%                       | 22.13%                        | 30.66%                          | 30.08%                         | 39.26%                            | 47.39%                           | 21.95% |
|         | O-W   | 21.70                         | 34.39%                       | 20.72%                        | 44.89%                          | 22.45%                         | 32.66%                            | 34.52%                           | 20.59% |
|         | O-O   | 15.93                         | 19.31%                       | 48.03%                        | 32.66%                          | 5.56%                          | 61.79%                            | 19.46%                           | 47.88% |
| INT TRK | 6.20  | 76.32%                        | 21.51%                       | 2.17%                         | 59.33%                          | 38.50%                         | 76.51%                            | 21.32%                           |        |
| REG TRK | 28.85                                       | 26.87%                        | 12.03%                       | 61.11%                        | 19.70%                          | 19.19%                         | 26.95%                            | 11.95%                           |        |
| EXT TRK | 77.50                                       | 8.21%                         | 4.59%                        | 87.19%                        | 5.11%                           | 7.70%                          | 8.25%                             | 4.56%                            |        |
|         |   |                               |                              |                               |                                 |                                |                                   |                                  |        |
| MEANS   | 22.28                                       | 38.33%                        | 15.31%                       | 46.36%                        | 28.42%                          | 25.23%                         | 38.44%                            | 15.21%                           |        |

TABLE N-13. PORT OF OAKLAND/FISCO EMPLOYEE COMMUTE TRAVEL PATTERNS

| RESIDENCY                     | EMPLOYEE<br>TRIPS | PERCENT<br>OF TRIPS | BAY AREA<br>DISTANCE<br>(MILES) | BAY AREA<br>MILEAGE<br>INCREMENT |
|-------------------------------|-------------------|---------------------|---------------------------------|----------------------------------|
| OAKLAND/PIEDMONT              | 683               | 30.77%              | 5.05                            | 1.55                             |
| ALAMEDA                       | 24                | 1.08%               | 5.92                            | 0.06                             |
| BERKELEY/ALBANY/EMERYVILLE    | 22                | 0.99%               | 6.51                            | 0.06                             |
| SAN LEANDRO/SAN LORENZO       | 89                | 4.01%               | 14.20                           | 0.57                             |
| HAYWARD/CASTRO VALLEY         | 235               | 10.59%              | 20.12                           | 2.13                             |
| UNION CITY                    | 23                | 1.04%               | 21.90                           | 0.23                             |
| FREMONT/NEWARK                | 38                | 1.71%               | 24.86                           | 0.43                             |
| DUBLIN/LIVERMORE/PLEASANTON   | 23                | 1.04%               | 31.96                           | 0.33                             |
| SAN PABLO/PINOLE/RODEO        | 43                | 1.94%               | 14.20                           | 0.28                             |
| RICHMOND/EL CERRITO           | 157               | 7.07%               | 10.06                           | 0.71                             |
| PITTSBURG/ANTIOCH             | 114               | 5.14%               | 27.23                           | 1.40                             |
| CONCORD/MARTINEZ              | 28                | 1.26%               | 24.86                           | 0.31                             |
| ORINDA/LAFAYETTE/WALNUT CREEK | 8                 | 0.36%               | 15.39                           | 0.06                             |
| ALAMO/DANVILLE/SAN RAMON      | 5                 | 0.23%               | 24.86                           | 0.06                             |
| SAN FRANCISCO                 | 111               | 5.00%               | 13.02                           | 0.65                             |
| SAN FRANCISCO LONGSHORE TRIPS | 112               | 5.05%               | 13.02                           | 0.66                             |
| SAN MATEO COUNTY              | 138               | 6.22%               | 21.31                           | 1.32                             |
| SANTA CLARA COUNTY            | 82                | 3.69%               | 66.29                           | 2.45                             |
| MARIN COUNTY                  | 15                | 0.68%               | 22.49                           | 0.15                             |
| NAPA/SONOMA COUNTIES          | 34                | 1.53%               | 43.80                           | 0.67                             |
| SOLANO COUNTY                 | 236               | 10.63%              | 36.70                           | 3.90                             |
| TOTALS                        | 2,220             | 100.00%             |                                 | 17.98                            |

Notes: Residency distribution data provided by Dowling Associates.  
 All distances estimated by map-measurer tracing of highway routes on a  
 1:36,750 scale map for Oakland, and 1:150,000 scale maps for other  
 locations.

TABLE N-14. PORT OF OAKLAND TRUCK TRAVEL PATTERNS WITHIN THE BAAQMD

| DESTINATION                     | TRUCK<br>TRIPS | PERCENT<br>OF TRIPS | BAY AREA<br>DISTANCE<br>(MILES) | BAY AREA<br>MILEAGE<br>INCREMENT |
|---------------------------------|----------------|---------------------|---------------------------------|----------------------------------|
| OAKLAND                         | 892            | 32.81%              | 6.51                            | 2.14                             |
| ALAMEDA                         | 11             | 0.40%               | 5.92                            | 0.02                             |
| BERKELEY/ALBANY/EMERYVILLE      | 15             | 0.55%               | 6.51                            | 0.04                             |
| SAN LEANDRO/SAN LORENZO         | 103            | 3.79%               | 14.20                           | 0.54                             |
| HAYWARD/CASTRO VALLEY           | 95             | 3.49%               | 20.12                           | 0.70                             |
| UNION CITY                      | 43             | 1.58%               | 21.90                           | 0.35                             |
| FREMONT/NEWARK                  | 35             | 1.29%               | 24.86                           | 0.32                             |
| DUBLIN/LIVERMORE/PLEASANTON     | 5              | 0.18%               | 31.96                           | 0.06                             |
| SAN PABLO/PINOLE/RODEO          | 17             | 0.63%               | 14.20                           | 0.09                             |
| RICHMOND                        | 209            | 7.69%               | 10.06                           | 0.77                             |
| PITTSBURG/ANTIOCH               | 19             | 0.70%               | 27.23                           | 0.19                             |
| CONCORD/MARTINEZ                | 20             | 0.74%               | 24.86                           | 0.18                             |
| ALAMO/DANVILLE/SAN RAMON        | 5              | 0.18%               | 24.86                           | 0.05                             |
| SAN FRANCISCO                   | 165            | 6.07%               | 13.02                           | 0.79                             |
| SAN MATEO COUNTY                | 57             | 2.10%               | 21.31                           | 0.45                             |
| SANTA CLARA COUNTY              | 136            | 5.00%               | 66.29                           | 3.32                             |
| MARIN COUNTY                    | 8              | 0.29%               | 22.49                           | 0.07                             |
| NAPA/SONOMA COUNTIES            | 34             | 1.25%               | 43.80                           | 0.55                             |
| SOLANO COUNTY                   | 61             | 2.24%               | 36.70                           | 0.82                             |
| SACRAMENTO AREA                 | 165            | 6.07%               | 49.72                           | 3.02                             |
| SAN JOAQUIN/STANISLAUS COUNTIES | 227            | 8.35%               | 45.57                           | 3.80                             |
| FRESNO/MERCED/MADERA COUNTIES   | 164            | 6.03%               | 45.57                           | 2.75                             |
| KERN/KINGS/TULARE COUNTIES      | 20             | 0.74%               | 45.57                           | 0.34                             |
| SANTA CRUZ COUNTY               | 7              | 0.26%               | 55.63                           | 0.14                             |
| OTHER CALIFORNIA                | 105            | 3.86%               | 45.57                           | 1.76                             |
| OTHER STATES                    | 101            | 3.71%               | 49.72                           | 1.85                             |
| TOTALS                          | 2,719          | 100.00%             |                                 | 25.09                            |
| BAY AREA SUBTOTAL:              |                | 70.98%              |                                 | 16.11                            |
| SACRAMENTO:                     |                | 6.07%               |                                 | 49.72                            |
| SAN JOAQUIN VALLEY:             |                | 15.12%              |                                 | 45.57                            |
| CENTRAL COAST:                  |                | 0.26%               |                                 | 55.63                            |
| OTHER CALIFORNIA:               |                | 3.86%               |                                 | 45.57                            |
| OTHER STATES:                   |                | 3.71%               |                                 | 49.72                            |

Notes: Truck travel patterns from Port of Oakland 1993 truck survey.  
All distances estimated by map-measurer tracing of highway routes on  
1:150,000 scale maps.



TABLE N-15. SUMMER REACTIVE ORGANIC COMPOUND AND NITROGEN OXIDE EMISSION RATES FOR 2010

| Land Use              | Trip Purpose | Exhaust ROG Emission Rates (grams/mile) by Speed (mph) |      |      |      |      | Hot Soak<br>ROG Rates<br>(grams/trip) | Other Evap<br>ROG Rates<br>(gm/veh-day) | Exhaust NOx Emission Rates (grams/mile) by Speed (mph) |      |      |      |      |
|-----------------------|--------------|--|------|------|------|------|---------------------------------------|---|--|------|------|------|------|
|                       |              |  |      |      |      |      |                                       |   |  |      |      |      |      |
|                       |              | 15   | 25   | 35   | 45   | 55   |                                       |   | 15   | 25   | 35   | 45   | 55   |
| FISCO AREAS 1, 2, & 3 | H-W          | 0.44   | 0.30 | 0.27 | 0.24 | 0.25 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.48 | 0.62 |
|                       | H-S          | 0.45   | 0.31 | 0.27 | 0.25 | 0.26 | 0.21                                  | 1.21                                    | 0.57   | 0.48 | 0.47 | 0.53 | 0.67 |
|                       | H-O          | 0.46   | 0.32 | 0.29 | 0.26 | 0.27 | 0.21                                  | 1.21                                    | 0.56   | 0.47 | 0.46 | 0.53 | 0.66 |
|                       | O-W          | 0.41   | 0.27 | 0.24 | 0.22 | 0.22 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.48 | 0.61 |
|                       | O-O          | 0.37   | 0.23 | 0.20 | 0.18 | 0.19 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.47 | 0.61 |
| FISCO AREAS 4 & 5     | H-W          | 0.44   | 0.30 | 0.27 | 0.24 | 0.25 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.48 | 0.62 |
|                       | H-S          | 0.45   | 0.31 | 0.27 | 0.25 | 0.26 | 0.21                                  | 1.21                                    | 0.57   | 0.48 | 0.47 | 0.53 | 0.67 |
|                       | H-O          | 0.46   | 0.32 | 0.29 | 0.26 | 0.27 | 0.21                                  | 1.21                                    | 0.56   | 0.47 | 0.46 | 0.53 | 0.66 |
|                       | O-W          | 0.41   | 0.27 | 0.24 | 0.22 | 0.22 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.48 | 0.61 |
|                       | O-O          | 0.37   | 0.23 | 0.20 | 0.18 | 0.19 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.47 | 0.61 |
| JIT AREA              | H-W          | 0.44   | 0.30 | 0.27 | 0.24 | 0.25 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.48 | 0.62 |
|                       | H-S          | 0.45   | 0.31 | 0.27 | 0.25 | 0.26 | 0.21                                  | 1.21                                    | 0.57   | 0.48 | 0.47 | 0.53 | 0.67 |
|                       | H-O          | 0.46   | 0.32 | 0.29 | 0.26 | 0.27 | 0.21                                  | 1.21                                    | 0.56   | 0.47 | 0.46 | 0.53 | 0.66 |
|                       | O-W          | 0.41   | 0.27 | 0.24 | 0.22 | 0.22 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.48 | 0.61 |
|                       | O-O          | 0.37   | 0.23 | 0.20 | 0.18 | 0.19 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.47 | 0.61 |
| SPRR TERMINAL         | H-W          | 0.44   | 0.30 | 0.27 | 0.24 | 0.25 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.48 | 0.62 |
|                       | H-S          | 0.45   | 0.31 | 0.27 | 0.25 | 0.26 | 0.21                                  | 1.21                                    | 0.57   | 0.48 | 0.47 | 0.53 | 0.67 |
|                       | H-O          | 0.46   | 0.32 | 0.29 | 0.26 | 0.27 | 0.21                                  | 1.21                                    | 0.56   | 0.47 | 0.46 | 0.53 | 0.66 |
|                       | O-W          | 0.41   | 0.27 | 0.24 | 0.22 | 0.22 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.48 | 0.61 |
|                       | O-O          | 0.37   | 0.23 | 0.20 | 0.18 | 0.19 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.47 | 0.61 |
| UP RAIL TERMINAL      | H-W          | 0.44   | 0.30 | 0.27 | 0.24 | 0.25 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.48 | 0.62 |
|                       | H-S          | 0.45   | 0.31 | 0.27 | 0.25 | 0.26 | 0.21                                  | 1.21                                    | 0.57   | 0.48 | 0.47 | 0.53 | 0.67 |
|                       | H-O          | 0.46   | 0.32 | 0.29 | 0.26 | 0.27 | 0.21                                  | 1.21                                    | 0.56   | 0.47 | 0.46 | 0.53 | 0.66 |
|                       | O-W          | 0.41   | 0.27 | 0.24 | 0.22 | 0.22 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.48 | 0.61 |
|                       | O-O          | 0.37   | 0.23 | 0.20 | 0.18 | 0.19 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.47 | 0.61 |

TABLE N-15. SUMMER REACTIVE ORGANIC COMPOUND AND NITROGEN OXIDE EMISSION RATES FOR 2010

| Land Use                  | Trip Purpose | Exhaust ROG Emission Rates (grams/mile) by Speed (mph) |      |      |      |      | Hot Soak<br>ROG Rates<br>(grams/trip) | Other Evap<br>ROG Rates<br>(gm/veh-day) | Exhaust NOx Emission Rates (grams/mile) by Speed (mph) |      |      |       |       |
|---------------------------|--------------|--|------|------|------|------|---------------------------------------|---|--|------|------|-------|-------|
|                           |              | 15   | 25   | 35   | 45   | 55   |                                       |   | 15   | 25   | 35   | 45    | 55    |
| MARINE TERMINAL AREAS     | H-W          | 0.44   | 0.30 | 0.27 | 0.24 | 0.25 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.48  | 0.62  |
|                           | H-S          | 0.45   | 0.31 | 0.27 | 0.25 | 0.26 | 0.21                                  | 1.21                                    | 0.57   | 0.48 | 0.47 | 0.53  | 0.67  |
|                           | H-O          | 0.46   | 0.32 | 0.29 | 0.26 | 0.27 | 0.21                                  | 1.21                                    | 0.56   | 0.47 | 0.46 | 0.53  | 0.66  |
|                           | O-W          | 0.41   | 0.27 | 0.24 | 0.22 | 0.22 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.48  | 0.61  |
|                           | O-O          | 0.37   | 0.23 | 0.20 | 0.18 | 0.19 | 0.21                                  | 1.21                                    | 0.51   | 0.42 | 0.41 | 0.47  | 0.61  |
| ON-SITE TRUCK TRIPS       | O-O          | 3.43   | 2.36 | 1.76 | 1.44 | 1.29 | 0.03                                  | 0.21                                    | 11.98  | 9.88 | 9.38 | 10.25 | 12.87 |
| BAY AREA TRUCK TRIPS      | O-O          | 3.43   | 2.36 | 1.76 | 1.44 | 1.29 | 0.03                                  | 0.21                                    | 11.98  | 9.88 | 9.38 | 10.25 | 12.87 |
| LONG DISTANCE TRUCK TRIPS | O-O          | 3.43   | 2.36 | 1.76 | 1.44 | 1.29 | 0.03                                  | 0.21                                    | 11.98  | 9.88 | 9.38 | 10.25 | 12.87 |
| PORT OF RICHMOND TRUCKS   | O-O          | 3.43   | 2.36 | 1.76 | 1.44 | 1.29 | 0.03                                  | 0.21                                    | 11.98  | 9.88 | 9.38 | 10.25 | 12.87 |

Notes: ROG = reactive organic compounds

NOx = nitrogen oxides

H-W = home - work trips

H-S = home - shopping trips

H-O = home - other trips

O-W = other - work trips

O-O = other - other trips

Emission rates for California vehicles were calculated for 2010 using the California Air Resources Board EMFAC7F computer program for exhaust emission rates, with diurnal and resting loss emissions calculated using data from the EMFAC7F model and calculation procedures presented in documentation reports for the EMFAC7EP and BURDEN7C models (California Air Resources Board 1991, 1992, 1993).

Exhaust emission rates are based on an air temperature of 70 degrees Fahrenheit; diurnal emission rates are based on a summer day temperature profile (55-80 degree Fahrenheit range).

Exhaust emission rates incorporate cold start and hot start rate increments based on aggregate start mode travel fractions calculated from assumed trip-type travel time frequency distributions.

Emission rates for employment-based traffic includes only passenger vehicles.

Emission rates for internal and external truck traffic includes only heavy trucks (95% diesel, 5% gasoline).

TABLE N-16. VEHICLE-RELATED PM10 AND SUMMER/WINTER CARBON MONOXIDE EMISSION RATES FOR 2010

| Land Use              | Trip Purpose | Exhaust PM10 Rate (gm/mile) | Entrained PM10 Rate (gm/mile) | Summer CO Emission Rates (gm/mi) by Speed (mph) |      |      |      |      | Winter CO Emission Rates (gm/mi) by Speed (mph) |      |      |      |      |
|-----------------------|--------------|-----------------------------|-------------------------------|---|------|------|------|------|---|------|------|------|------|
|                       |              |                             |                               | -----   |      |      |      |      | -----   |      |      |      |      |
|                       |              |                             |                               | 15  | 25   | 35   | 45   | 55   | 15  | 25   | 35   | 45   | 55   |
| FISCO AREAS 1, 2, & 3 | H-W          | 0.01                        | 3.10                          | 5.07  | 3.95 | 3.51 | 3.36 | 3.68 | 6.30  | 5.07 | 4.57 | 4.40 | 4.76 |
|                       | H-S          | 0.01                        | 3.10                          | 5.24  | 4.12 | 3.68 | 3.53 | 3.85 | 6.48  | 5.24 | 4.74 | 4.58 | 4.93 |
|                       | H-O          | 0.01                        | 3.10                          | 5.37  | 4.25 | 3.81 | 3.66 | 3.98 | 6.69  | 5.46 | 4.96 | 4.79 | 5.14 |
|                       | O-W          | 0.01                        | 3.10                          | 4.77  | 3.65 | 3.21 | 3.06 | 3.38 | 5.84  | 4.60 | 4.11 | 3.94 | 4.29 |
|                       | O-O          | 0.01                        | 3.10                          | 4.34  | 3.23 | 2.78 | 2.63 | 2.95 | 5.17  | 3.94 | 3.44 | 3.27 | 3.63 |
| FISCO AREAS 4 & 5     | H-W          | 0.01                        | 3.10                          | 5.07  | 3.95 | 3.51 | 3.36 | 3.68 | 6.30  | 5.07 | 4.57 | 4.40 | 4.76 |
|                       | H-S          | 0.01                        | 3.10                          | 5.24  | 4.12 | 3.68 | 3.53 | 3.85 | 6.48  | 5.24 | 4.74 | 4.58 | 4.93 |
|                       | H-O          | 0.01                        | 3.10                          | 5.37  | 4.25 | 3.81 | 3.66 | 3.98 | 6.69  | 5.46 | 4.96 | 4.79 | 5.14 |
|                       | O-W          | 0.01                        | 3.10                          | 4.77  | 3.65 | 3.21 | 3.06 | 3.38 | 5.84  | 4.60 | 4.11 | 3.94 | 4.29 |
|                       | O-O          | 0.01                        | 3.10                          | 4.34  | 3.23 | 2.78 | 2.63 | 2.95 | 5.17  | 3.94 | 3.44 | 3.27 | 3.63 |
| JIT AREA              | H-W          | 0.01                        | 3.10                          | 5.07  | 3.95 | 3.51 | 3.36 | 3.68 | 6.30  | 5.07 | 4.57 | 4.40 | 4.76 |
|                       | H-S          | 0.01                        | 3.10                          | 5.24  | 4.12 | 3.68 | 3.53 | 3.85 | 6.48  | 5.24 | 4.74 | 4.58 | 4.93 |
|                       | H-O          | 0.01                        | 3.10                          | 5.37  | 4.25 | 3.81 | 3.66 | 3.98 | 6.69  | 5.46 | 4.96 | 4.79 | 5.14 |
|                       | O-W          | 0.01                        | 3.10                          | 4.77  | 3.65 | 3.21 | 3.06 | 3.38 | 5.84  | 4.60 | 4.11 | 3.94 | 4.29 |
|                       | O-O          | 0.01                        | 3.10                          | 4.34  | 3.23 | 2.78 | 2.63 | 2.95 | 5.17  | 3.94 | 3.44 | 3.27 | 3.63 |
| SPRR TERMINAL         | H-W          | 0.01                        | 3.10                          | 5.07  | 3.95 | 3.51 | 3.36 | 3.68 | 6.30  | 5.07 | 4.57 | 4.40 | 4.76 |
|                       | H-S          | 0.01                        | 3.10                          | 5.24  | 4.12 | 3.68 | 3.53 | 3.85 | 6.48  | 5.24 | 4.74 | 4.58 | 4.93 |
|                       | H-O          | 0.01                        | 3.10                          | 5.37  | 4.25 | 3.81 | 3.66 | 3.98 | 6.69  | 5.46 | 4.96 | 4.79 | 5.14 |
|                       | O-W          | 0.01                        | 3.10                          | 4.77  | 3.65 | 3.21 | 3.06 | 3.38 | 5.84  | 4.60 | 4.11 | 3.94 | 4.29 |
|                       | O-O          | 0.01                        | 3.10                          | 4.34  | 3.23 | 2.78 | 2.63 | 2.95 | 5.17  | 3.94 | 3.44 | 3.27 | 3.63 |
| UP RAIL TERMINAL      | H-W          | 0.01                        | 3.10                          | 5.07  | 3.95 | 3.51 | 3.36 | 3.68 | 6.30  | 5.07 | 4.57 | 4.40 | 4.76 |
|                       | H-S          | 0.01                        | 3.10                          | 5.24  | 4.12 | 3.68 | 3.53 | 3.85 | 6.48  | 5.24 | 4.74 | 4.58 | 4.93 |
|                       | H-O          | 0.01                        | 3.10                          | 5.37  | 4.25 | 3.81 | 3.66 | 3.98 | 6.69  | 5.46 | 4.96 | 4.79 | 5.14 |
|                       | O-W          | 0.01                        | 3.10                          | 4.77  | 3.65 | 3.21 | 3.06 | 3.38 | 5.84  | 4.60 | 4.11 | 3.94 | 4.29 |
|                       | O-O          | 0.01                        | 3.10                          | 4.34  | 3.23 | 2.78 | 2.63 | 2.95 | 5.17  | 3.94 | 3.44 | 3.27 | 3.63 |

TABLE N-16. VEHICLE-RELATED PM10 AND SUMMER/WINTER CARBON MONOXIDE EMISSION RATES FOR 2010

| Land Use                  | Trip Purpose | Exhaust             | Entrained           | Summer CO Emission Rates (gm/mi) by Speed (mph) |       |      |      |      | Winter CO Emission Rates (gm/mi) by Speed (mph) |       |      |      |      |
|---------------------------|--------------|---------------------|---------------------|---|-------|------|------|------|---|-------|------|------|------|
|                           |              | PM10 Rate (gm/mile) | PM10 Rate (gm/mile) | 15  | 25    | 35   | 45   | 55   | 15  | 25    | 35   | 45   | 55   |
| MARINE TERMINAL AREAS     | H-W          | 0.01                | 3.10                | 5.07  | 3.95  | 3.51 | 3.36 | 3.68 | 6.30  | 5.07  | 4.57 | 4.40 | 4.76 |
|                           | H-S          | 0.01                | 3.10                | 5.24  | 4.12  | 3.68 | 3.53 | 3.85 | 6.48  | 5.24  | 4.74 | 4.58 | 4.93 |
|                           | H-O          | 0.01                | 3.10                | 5.37  | 4.25  | 3.81 | 3.66 | 3.98 | 6.69  | 5.46  | 4.96 | 4.79 | 5.14 |
|                           | O-W          | 0.01                | 3.10                | 4.77  | 3.65  | 3.21 | 3.06 | 3.38 | 5.84  | 4.60  | 4.11 | 3.94 | 4.29 |
|                           | O-O          | 0.01                | 3.10                | 4.34  | 3.23  | 2.78 | 2.63 | 2.95 | 5.17  | 3.94  | 3.44 | 3.27 | 3.63 |
| ON-SITE TRUCK TRIPS       | O-O          | 0.98                | 3.54                | 17.21   | 10.26 | 7.35 | 6.33 | 6.55 | 17.33   | 10.33 | 7.40 | 6.38 | 6.60 |
| BAY AREA TRUCK TRIPS      | O-O          | 0.98                | 3.54                | 17.21   | 10.26 | 7.35 | 6.33 | 6.55 | 17.33   | 10.33 | 7.40 | 6.38 | 6.60 |
| LONG DISTANCE TRUCK TRIPS | O-O          | 0.98                | 3.54                | 17.21   | 10.26 | 7.35 | 6.33 | 6.55 | 17.33   | 10.33 | 7.40 | 6.38 | 6.60 |
| PORT OF RICHMOND TRUCKS   | O-O          | 0.98                | 3.54                | 17.21   | 10.26 | 7.35 | 6.33 | 6.55 | 17.33   | 10.33 | 7.40 | 6.38 | 6.60 |

Notes: PM10 = inhalable particulate matter

CO = carbon monoxide

H-W = home - work trips

H-S = home - shopping trips

H-O = home - other trips

O-W = other - work trips

O-O = other - other trips

Emission rates for California vehicles calculated for 2010 using the California Air Resources Board EMFAC7F computer program.

Entrained PM10 emission rates include tire wear plus 2.9 grams/VMT of resuspended paved roadway dust.

Summer CO emission rates based on an air temperature of 70 degrees Fahrenheit; winter CO emission rates based on an air temperature of 50 degrees Fahrenheit.

Exhaust emission rates incorporate cold start and hot start rate increments based on aggregate start mode travel fractions calculated from assumed trip-type travel time frequency distributions.

Emission rates for employment-based traffic includes only passenger vehicles.

Emission rates for internal and external truck traffic includes only heavy trucks (95% diesel, 5% gasoline).



TABLE N-17. TRIP RATE CALCULATIONS WITH INTERNAL TRIP ADJUSTMENTS, NO ACTION ALTERNATIVE

| Land Use or<br>Trip Generation<br>Category | Trip Estimate Basis | Base Trip<br>Generation<br>Rate | Vehicle<br>Generation<br>Rate | P/A Trip Rate Splits |             | Base Trip<br>Volume | % Productions |              | Number of<br>Internal Trip<br>Productions | % Attractions |         | Number of<br>Internal Trip<br>Attractions | Internal/<br>External<br>Trips | Net    |           | Trip Rate<br>Adjusted<br>Trip Rate<br>Factor |
|--|---------------------|---------------------------------|-------------------------------|----------------------|-------------|---------------------|---------------|--------------|---|---------------|---------|---|--------------------------------|--------|-----------|--|
|  |                     |                                 |                               | Productions          | Attractions |                     | W Internal    | Destinations |   | W Internal    | Origins |   |                                | Trips  | Generated |  |
|  |                     |                                 |                               | -----                | -----       |                     | -----         | -----        |   | -----         | -----   |   |                                | -----  | -----     |  |
| FISCO AREAS 1, 2, & 3                      | 500 EMPLOYEES       | 3.50                            | 0.6                           | 10%                  | 90%         | 1,750               | 0%            |              | 0   | 0%            |         | 0   | 1,750                          | 1,750  | 3.5       | 0.0%   |
| FISCO AREAS 4 & 5                          | 200 EMPLOYEES       | 3.50                            | 0.6                           | 10%                  | 90%         | 700                 | 0%            |              | 0   | 0%            |         | 0   | 700                            | 700    | 3.5       | 0.0%   |
| JIT AREA                                   | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%            |              | 0   | 0%            |         | 0   | 0                              | 0      | 0.0       | 0.0%   |
| SPRR TERMINAL                              | 130 EMPLOYEES       | 3.50                            | 0.6                           | 10%                  | 90%         | 455                 | 0%            |              | 0   | 0%            |         | 0   | 455                            | 455    | 3.5       | 0.0%   |
| UP RAIL TERMINAL                           | 82 EMPLOYEES        | 3.50                            | 0.6                           | 10%                  | 90%         | 287                 | 0%            |              | 0   | 0%            |         | 0   | 287                            | 287    | 3.5       | 0.0%   |
| MARINE TERMINAL AREAS                      | 1,835 EMPLOYEES     | 3.50                            | 0.6                           | 10%                  | 90%         | 6,423               | 0%            |              | 0   | 0%            |         | 0   | 6,423                          | 6,423  | 3.5       | 0.0%   |
| ON-SITE TRUCK TRIPS                        | 469 ACRES           | 1.26                            | 0.0                           | 50%                  | 50%         | 589                 | 0%            |              | 0   | 0%            |         | 0   | 589                            | 589    | 1.3       | 0.0%   |
| BAY AREA TRUCK TRIPS                       | 469 ACRES           | 20.93                           | 0.0                           | 50%                  | 50%         | 9,815               | 0%            |              | 0   | 0%            |         | 0   | 9,815                          | 9,815  | 20.9      | 0.0%   |
| LONG DISTANCE TRUCK TRIPS                  | 469 ACRES           | 8.57                            | 0.0                           | 50%                  | 50%         | 4,021               | 0%            |              | 0   | 0%            |         | 0   | 4,021                          | 4,021  | 8.6       | 0.0%   |
| PORT OF RICHMOND TRUCKS                    | 469 ACRES           | 0.05                            | 0.0                           | 50%                  | 50%         | 23                  | 0%            |              | 0   | 0%            |         | 0   | 23                             | 23     | 0.0       | 0.0%   |
| TOTALS                                     |                     |                                 |                               |                      |             | 24,063              |               |              | 0   |               |         | 0   | 24,063                         | 24,063 |           | 0.0%   |

Notes: Employment estimates by subarea taken from traffic modeling analyses performed by Dowling & Associates.

Average daily employee trip rates are based on ITE trip generation manual rates for light industrial uses (Institute of Transportation Engineers, 1991).

Average daily truck trip rates are back calculated from peak week truck trip estimates provided by Jordan Woodman Dobson; average daily truck trips are estimated to be 80% of peak week trips for marine terminals and 84% of peak week trips for rail terminals.

Port of Richmond truck trips are assumed to be 3.8% of total marine-to-rail truck trips.

Bay Area truck trips represent 70.98% of the off-site truck trips; 29.02% of off-site truck trips are to or from locations outside the Bay Area.

The vehicle generation rate is used in the emissions analysis to compute diurnal and resting loss emissions from parked vehicles.

Production/attraction splits reflect the origin of a round trip.

Internal trip production/attraction balancing is not required by the trip generation approach used for this alternative.

Net trips generated = internal/external trips + 50% of internal productions + 50% of internal attractions.

TABLE N-18. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, NO ACTION ALTERNATIVE

| Land Use              | Trip Estimate Basis | Trip Purpose | Percent of Net Trips | Net Trip Rates | TCM Program Effect | Adjusted Net Trip Rate | Adjusted Net Trips | Overall TCM Effectiveness | Mean Trip Duration (Minutes) | Percent of Travel Time by Speed (mph) |       |       |       |       |
|-----------------------|---------------------|--------------|----------------------|----------------|--------------------|------------------------|--------------------|---------------------------|------------------------------|---------------------------------------|-------|-------|-------|-------|
|                       |                     |              |                      |                |                    |                        |                    |                           |                              | 15                                    | 25    | 35    | 45    | 55    |
| FISCO AREAS 1, 2, & 3 | 500 EMPLOYEES       | H-W          | 40.0%                | 1.4            | 0%                 | 1.4                    | 700                |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 88                 |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 1.8            | 0%                 | 1.8                    | 875                |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 88                 |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| FISCO AREAS 4 & 5     | 200 EMPLOYEES       | H-W          | 40.0%                | 1.4            | 0%                 | 1.4                    | 280                |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 35                 |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 1.8            | 0%                 | 1.8                    | 350                |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 35                 |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| JIT AREA              | 0 EMPLOYEES         | H-W          | 40.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| SPRR TERMINAL         | 130 EMPLOYEES       | H-W          | 40.0%                | 1.4            | 0%                 | 1.4                    | 182                |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 23                 |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 1.8            | 0%                 | 1.8                    | 228                |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 23                 |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| UP RAIL TERMINAL      | 82 EMPLOYEES        | H-W          | 40.0%                | 1.4            | 0%                 | 1.4                    | 115                |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 14                 |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 1.8            | 0%                 | 1.8                    | 144                |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 14                 |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |

TABLE N-18. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, NO ACTION ALTERNATIVE

| Land Use                  | Trip Estimate Basis | Trip Purpose | Percent of Net Trips | Net Trip Rates | TCM Program Effect | Adjusted Net Trip Rate | Adjusted Net Trips | Overall TCM Effectiveness | Mean Trip Duration (Minutes) | Percent of Travel Time by Speed (mph) |       |       |       |       |
|---------------------------|---------------------|--------------|----------------------|----------------|--------------------|------------------------|--------------------|---------------------------|------------------------------|---------------------------------------|-------|-------|-------|-------|
|                           |                     |              |                      |                |                    |                        |                    |                           |                              | 15                                    | 25    | 35    | 45    | 55    |
| MARINE TERMINAL AREAS     | 1,835 EMPLOYEES     | H-W          | 40.0%                | 1.4            | 0%                 | 1.4                    | 2,569              |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                           |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                           |                     | H-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 321                |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                           |                     | O-W          | 50.0%                | 1.8            | 0%                 | 1.8                    | 3,212              |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                           |                     | O-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 321                |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| ON-SITE TRUCK TRIPS       | 469 ACRES           | O-O          | 100.0%               | 1.3            | 0%                 | 1.3                    | 589                |                           | 6.20                         | 75.0%                                 | 20.0% | 5.0%  | 0.0%  | 0.0%  |
| BAY AREA TRUCK TRIPS      | 469 ACRES           | O-O          | 100.0%               | 20.9           | 0%                 | 20.9                   | 9,815              |                           | 28.85                        | 15.0%                                 | 25.0% | 30.0% | 20.0% | 10.0% |
| LONG DISTANCE TRUCK TRIPS | 469 ACRES           | O-O          | 100.0%               | 8.6            | 0%                 | 8.6                    | 4,021              |                           | 77.50                        | 10.0%                                 | 20.0% | 25.0% | 25.0% | 20.0% |
| PORT OF RICHMOND TRUCKS   | 469 ACRES           | O-O          | 100.0%               | 0.0            | 0%                 | 0.0                    | 23                 |                           | 18.00                        | 10.0%                                 | 20.0% | 25.0% | 25.0% | 20.0% |
| TOTALS                    |                     |              |                      |                |                    |                        | 24,065             | 0.0%                      |                              |                                       |       |       |       |       |

Notes: H-W = home-work trips

H-S = home-shopping trips

H-O = home-other trips

O-W = other-work trips

O-O = other-other trips

TCM = transportation control measures

Mean trip durations were derived from estimated travel time frequency distributions for home-work, home-shopping, home-other, other-work, and other-other trips, recognizing employee residency patterns plus travel times and distances between communities in the Bay Area.

Vehicle speed distributions were estimated from general road network features of the San Francisco Bay Area.

TABLE N-19. VEHICLE TRAVEL SUMMARY, NO ACTION ALTERNATIVE

| LAND USE              | TRIP ESTIMATE BASIS | TRIP PURPOSE | AVERAGE DAILY TRIPS | MEAN TRIP DURATION (MINUTES) | AVERAGE DISTANCE (MILES) | DAILY VMT BY TRIP PURPOSE | AVERAGE TRAVEL SPEED (MPH) |
|-----------------------|---------------------|--------------|---------------------|------------------------------|--------------------------|---------------------------|----------------------------|
| FISCO AREAS 1, 2, & 3 | 500 EMPLOYEES       | H-W          | 700                 | 24.8                         | 17.94                    | 12,561                    | 43.5                       |
|                       |                     | H-S          | 0                   | 12.5                         | 7.40                     | 0                         | 35.5                       |
|                       |                     | H-O          | 88                  | 14.7                         | 8.59                     | 756                       | 35.0                       |
|                       |                     | O-W          | 875                 | 21.7                         | 14.83                    | 12,975                    | 41.0                       |
|                       |                     | O-O          | 88                  | 15.9                         | 9.29                     | 818                       | 35.0                       |
| FISCO AREAS 4 & 5     | 200 EMPLOYEES       | H-W          | 280                 | 24.8                         | 17.94                    | 5,024                     | 43.5                       |
|                       |                     | H-S          | 0                   | 12.5                         | 7.40                     | 0                         | 35.5                       |
|                       |                     | H-O          | 35                  | 14.7                         | 8.59                     | 301                       | 35.0                       |
|                       |                     | O-W          | 350                 | 21.7                         | 14.83                    | 5,190                     | 41.0                       |
|                       |                     | O-O          | 35                  | 15.9                         | 9.29                     | 325                       | 35.0                       |
| JIT AREA              | 0 EMPLOYEES         | H-W          | 0                   | 24.8                         | 17.94                    | 0                         | 43.5                       |
|                       |                     | H-S          | 0                   | 12.5                         | 7.40                     | 0                         | 35.5                       |
|                       |                     | H-O          | 0                   | 14.7                         | 8.59                     | 0                         | 35.0                       |
|                       |                     | O-W          | 0                   | 21.7                         | 14.83                    | 0                         | 41.0                       |
|                       |                     | O-O          | 0                   | 15.9                         | 9.29                     | 0                         | 35.0                       |
| SPRR TERMINAL         | 130 EMPLOYEES       | H-W          | 182                 | 24.8                         | 17.94                    | 3,266                     | 43.5                       |
|                       |                     | H-S          | 0                   | 12.5                         | 7.40                     | 0                         | 35.5                       |
|                       |                     | H-O          | 23                  | 14.7                         | 8.59                     | 198                       | 35.0                       |
|                       |                     | O-W          | 228                 | 21.7                         | 14.83                    | 3,381                     | 41.0                       |
|                       |                     | O-O          | 23                  | 15.9                         | 9.29                     | 214                       | 35.0                       |
| UP RAIL TERMINAL      | 82 EMPLOYEES        | H-W          | 115                 | 24.8                         | 17.94                    | 2,064                     | 43.5                       |
|                       |                     | H-S          | 0                   | 12.5                         | 7.40                     | 0                         | 35.5                       |
|                       |                     | H-O          | 14                  | 14.7                         | 8.59                     | 120                       | 35.0                       |
|                       |                     | O-W          | 144                 | 21.7                         | 14.83                    | 2,135                     | 41.0                       |
|                       |                     | O-O          | 14                  | 15.9                         | 9.29                     | 130                       | 35.0                       |



TABLE N-19. VEHICLE TRAVEL SUMMARY, NO ACTION ALTERNATIVE

| LAND USE                  | TRIP ESTIMATE BASIS | TRIP<br>PURPOSE | AVERAGE<br>DAILY<br>TRIPS | MEAN TRIP<br>DURATION<br>(MINUTES) | AVERAGE<br>DISTANCE<br>(MILES) | DAILY VMT<br>BY TRIP<br>PURPOSE | AVERAGE<br>TRAVEL<br>SPEED (MPH) |
|---------------------------|---------------------|-----------------|---------------------------|------------------------------------|--------------------------------|---------------------------------|----------------------------------|
| MARINE TERMINAL AREAS     | 1,835 EMPLOYEES     | H-W             | 2,569                     | 24.8                               | 17.94                          | 46,097                          | 43.5                             |
|                           |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                           |                     | H-O             | 321                       | 14.7                               | 8.59                           | 2,758                           | 35.0                             |
|                           |                     | O-W             | 3,212                     | 21.7                               | 14.83                          | 47,629                          | 41.0                             |
|                           |                     | O-O             | 321                       | 15.9                               | 9.29                           | 2,983                           | 35.0                             |
| ON-SITE TRUCK TRIPS       | 469 ACRES           | O-O             | 589                       | 6.2                                | 1.86                           | 1,096                           | 18.0                             |
| BAY AREA TRUCK TRIPS      | 469 ACRES           | O-O             | 9,815                     | 28.9                               | 16.11                          | 158,099                         | 33.5                             |
| LONG DISTANCE TRUCK TRIPS | 469 ACRES           | O-O             | 4,021                     | 77.5                               | 48.44                          | 194,767                         | 37.5                             |
| PORT OF RICHMOND TRUCKS   | 469 ACRES           | O-O             | 23                        | 18.0                               | 11.25                          | 259                             | 37.5                             |
| .....                     |                     |                 |                           |                                    |                                |                                 |                                  |
| TOTALS:                   |                     | H-W             | 3,846                     | 24.8                               | 17.94                          | 69,012                          | 43.5                             |
|                           |                     | H-S             | 0                         | 0.0                                | 0.00                           | 0                               | 0.0                              |
|                           |                     | H-O             | 481                       | 14.8                               | 8.59                           | 4,133                           | 34.9                             |
|                           |                     | O-W             | 4,809                     | 21.7                               | 14.83                          | 71,309                          | 41.0                             |
|                           |                     | O-O             | 14,929                    | 40.6                               | 24.03                          | 358,690                         | 35.5                             |
|                           |                     |                 | .....                     | .....                              | .....                          | .....                           | .....                            |
|                           |                     |                 | 24,065                    | 33.8                               | 20.91                          | 503,144                         | 37.1                             |

Notes: H-W = home-work trips  
H-S = home-shopping trips  
H-O = home-other trips  
O-W = other-work trips  
O-O = other-other trips  
VMT = vehicle miles traveled

TABLE N-20. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, NO ACTION ALTERNATIVE

| Land Use              | Trip Estimate Basis | Trip Purpose | Average          | VMT by Category | Exhaust            | Exhaust            | Total PM10              | Summer            | Winter            | ROG                 | NOx                 | PM10                | Summer CO           | Winter CO           |
|-----------------------|---------------------|--------------|------------------|-----------------|--------------------|--------------------|-------------------------|-------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                       |                     |              | Distance (miles) |                 | ROG Rate (gm/mile) | NOx Rate (gm/mile) | Emission Rate (gm/mile) | CO Rate (gm/mile) | CO Rate (gm/mile) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) |
| FISCO AREAS 1, 2, & 3 | 500 EMPLOYEES       | H-W          | 17.94            | 12,561          | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 7.7                 | 14.8                | 86.1                | 99.9                | 129.5               |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 756             | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.6                 | 0.9                 | 5.2                 | 6.6                 | 8.6                 |
|                       |                     | O-W          | 14.83            | 12,975          | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 7.4                 | 15.0                | 88.9                | 95.5                | 121.5               |
|                       |                     | O-O          | 9.29             | 818             | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.4                 | 0.9                 | 5.6                 | 5.3                 | 6.5                 |
| FISCO AREAS 4 & 5     | 200 EMPLOYEES       | H-W          | 17.94            | 5,024           | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 3.1                 | 5.9                 | 34.4                | 40.0                | 51.8                |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 301             | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.2                 | 0.3                 | 2.1                 | 2.6                 | 3.4                 |
|                       |                     | O-W          | 14.83            | 5,190           | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 3.0                 | 6.0                 | 35.6                | 38.2                | 48.6                |
|                       |                     | O-O          | 9.29             | 325             | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.2                 | 0.3                 | 2.2                 | 2.1                 | 2.6                 |
| JIT AREA              | 0 EMPLOYEES         | H-W          | 17.94            | 0               | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 0               | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-W          | 14.83            | 0               | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-O          | 9.29             | 0               | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
| SPRR TERMINAL         | 130 EMPLOYEES       | H-W          | 17.94            | 3,266           | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 2.0                 | 3.9                 | 22.4                | 26.0                | 33.7                |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 198             | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.1                 | 0.2                 | 1.4                 | 1.7                 | 2.2                 |
|                       |                     | O-W          | 14.83            | 3,381           | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 1.9                 | 3.9                 | 23.2                | 24.9                | 31.7                |
|                       |                     | O-O          | 9.29             | 214             | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.1                 | 0.2                 | 1.5                 | 1.4                 | 1.7                 |
| UP RAIL TERMINAL      | 82 EMPLOYEES        | H-W          | 17.94            | 2,064           | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 1.3                 | 2.4                 | 14.1                | 16.4                | 21.3                |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 120             | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.1                 | 0.1                 | 0.8                 | 1.1                 | 1.4                 |
|                       |                     | O-W          | 14.83            | 2,135           | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 1.2                 | 2.5                 | 14.6                | 15.7                | 20.0                |
|                       |                     | O-O          | 9.29             | 130             | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.1                 | 0.1                 | 0.9                 | 0.8                 | 1.0                 |

TABLE N-20. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, NO ACTION ALTERNATIVE

| Land Use                  | Trip Estimate Basis | Trip Purpose | Average          | VMT by Category | Exhaust            | Exhaust            | Total PM10              | Summer            | Winter            | ROG                 | NOx                 | PM10                | Summer CO           | Winter CO           |
|---------------------------|---------------------|--------------|------------------|-----------------|--------------------|--------------------|-------------------------|-------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                           |                     |              | Distance (miles) |                 | ROG Rate (gm/mile) | NOx Rate (gm/mile) | Emission Rate (gm/mile) | CO Rate (gm/mile) | CO Rate (gm/mile) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) |
| MARINE TERMINAL AREAS     | 1,835 EMPLOYEES     | H-W          | 17.94            | 46,097          | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 28.2                | 54.4                | 316.0               | 366.8               | 475.3               |
|                           |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                           |                     | H-O          | 8.59             | 2,758           | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 2.1                 | 3.2                 | 18.9                | 24.1                | 31.2                |
|                           |                     | O-W          | 14.83            | 47,629          | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 27.1                | 54.9                | 326.5               | 350.7               | 446.1               |
|                           |                     | O-O          | 9.29             | 2,983           | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 1.6                 | 3.1                 | 20.4                | 19.3                | 23.8                |
| ON-SITE TRUCK TRIPS       | 469 ACRES           | O-O          | 1.86             | 1,096           | 2.97               | 11.14              | 4.53                    | 14.32             | 14.42             | 7.2                 | 26.9                | 10.9                | 34.6                | 34.8                |
| BAY AREA TRUCK TRIPS      | 469 ACRES           | O-O          | 16.11            | 158,099         | 1.82               | 10.46              | 4.53                    | 8.15              | 8.21              | 635.5               | 3,644.6             | 1,577.5             | 2,840.5             | 2,860.2             |
| LONG DISTANCE TRUCK TRIPS | 469 ACRES           | O-O          | 48.44            | 194,767         | 1.67               | 10.84              | 4.53                    | 7.59              | 7.64              | 731.3               | 4,653.0             | 1,943.4             | 3,259.5             | 3,282.5             |
| PORT OF RICHMOND TRUCKS   | 469 ACRES           | O-O          | 11.25            | 259             | 1.67               | 10.84              | 4.53                    | 7.59              | 7.64              | 1.0                 | 6.2                 | 2.6                 | 4.3                 | 4.4                 |
| TOTALS                    |                     |              | 20.91            | 503,144         |                    |                    |                         |                   |                   | 1,463.3             | 8,503.9             | 4,555.3             | 7,278.3             | 7,643.8             |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

CO = carbon monoxide

Average trip distances are calculated from mean trip durations and the distribution of travel time by speed categories.

Different travel patterns and vehicle type mixes are assumed for employee trips and truck trips

Average exhaust emission rates based on VMT-weighting of emission rates for the five speed categories, with weighting factors calculated in a manner consistent with the travel time and speed assumptions used to compute average trip lengths.

TABLE N-21. SUMMARY OF TRAFFIC-RELATED OZONE PRECURSOR EMISSIONS, NO ACTION ALTERNATIVE AND EMISSION RATES FOR 2010

| Land Use                  | Amount of Development | Net Daily Vehicle Trip Generation |                | Total Trips | Daily VMT Estimate | Average Summer Day Traffic-Related Ozone Precursor Emissions (pounds per day) | Average Daily Exhaust Plus Entrained PM10 Emissions (pounds per day) | Average Daily Traffic-Related Carbon Monoxide Emissions (pounds per day) |         |         |
|---------------------------|-----------------------|-----------------------------------|----------------|-------------|--------------------|---|--|--|---------|---------|
|                           |                       | Internal Trips                    | External Trips |             |                    | ROG   | NOx  | Summer   | Winter  |         |
|                           |                       |                                   |                |             |                    |   |  |  |         |         |
| FISCO AREAS 1, 2, & 3     | 500 EMPLOYEES         | 0                                 | 1,751          | 1,751       | 27,109             | 16.1  | 31.5   | 185.8  | 207.4   | 266.1   |
| FISCO AREAS 4 & 5         | 200 EMPLOYEES         | 0                                 | 700            | 700         | 10,840             | 6.4   | 12.6   | 74.3   | 82.9    | 106.4   |
| JIT AREA                  | 0 EMPLOYEES           | 0                                 | 0              | 0           | 0                  | 0.0   | 0.0  | 0.0  | 0.0     | 0.0     |
| SPRR TERMINAL             | 130 EMPLOYEES         | 0                                 | 456            | 456         | 7,058              | 4.2   | 8.2  | 48.4   | 54.0    | 69.3    |
| UP RAIL TERMINAL          | 82 EMPLOYEES          | 0                                 | 287            | 287         | 4,449              | 2.6   | 5.2  | 30.5   | 34.0    | 43.7    |
| MARINE TERMINAL AREAS     | 1,835 EMPLOYEES       | 0                                 | 6,423          | 6,423       | 99,467             | 59.0  | 115.7  | 681.8  | 761.0   | 976.4   |
| ON-SITE TRUCK TRIPS       | 469 ACRES             | 589                               | 0              | 589         | 1,096              | 7.2   | 26.9   | 10.9   | 34.6    | 34.8    |
| BAY AREA TRUCK TRIPS      | 469 ACRES             | 0                                 | 9,815          | 9,815       | 158,099            | 635.5   | 3,644.6  | 1,577.5  | 2,840.5 | 2,860.2 |
| LONG DISTANCE TRUCK TRIPS | 469 ACRES             | 0                                 | 4,021          | 4,021       | 194,767            | 731.3   | 4,653.0  | 1,943.4  | 3,259.5 | 3,282.5 |
| PORT OF RICHMOND TRUCKS   | 469 ACRES             | 0                                 | 23             | 23          | 259                | 1.0   | 6.2  | 2.6  | 4.3     | 4.4     |
| Auto Trips:               |                       | 0                                 | 9,617          | 9,617       | 148,924            | 88.3  | 173.2  | 1,020.8  | 1,139.3 | 1,461.9 |
| Truck Trips:              |                       | 589                               | 13,859         | 14,448      | 354,221            | 1,375.0   | 8,330.7  | 3,534.5  | 6,139.0 | 6,181.9 |
| Total                     |                       | 589                               | 23,476         | 24,065      | 503,144            | 1,463.3   | 8,503.9  | 4,555.3  | 7,278.3 | 7,643.8 |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

Different travel patterns and vehicle type mixes are assumed for employee trips and truck trips



TABLE N-22. ESTIMATED ANNUAL VEHICLE TRAFFIC EMISSIONS, NO ACTION ALTERNATIVE

| Land Use                  | Annual<br>Vehicle<br>Trips | Annual VMT  | Estimated Annual Vehicle Emissions<br>(Tons Per Year) For No Action |         |        |       |        |
|---------------------------|----------------------------|-------------|---|---------|--------|-------|--------|
|                           |                            |             | ROG   | NOx     | CO     | SOx   | PM10   |
| FISCO AREAS 1, 2, & 3     | 437,750                    | 6,777,324   | 2.01  | 3.94    | 28.37  | 0.22  | 23.23  |
| FISCO AREAS 4 & 5         | 175,000                    | 2,710,035   | 0.80  | 1.58    | 11.34  | 0.09  | 9.29   |
| JIT AREA                  | 0                          | 0           | 0.00  | 0.00    | 0.00   | 0.00  | 0.00   |
| SPRR TERMINAL             | 114,000                    | 1,764,494   | 0.52  | 1.03    | 7.39   | 0.06  | 6.05   |
| UP RAIL TERMINAL          | 71,750                     | 1,112,300   | 0.33  | 0.65    | 4.66   | 0.04  | 3.81   |
| MARINE TERMINAL AREAS     | 1,605,750                  | 24,866,796  | 7.37  | 14.46   | 104.10 | 0.82  | 85.22  |
| ON-SITE TRUCK TRIPS       | 147,250                    | 273,885     | 0.90  | 3.36    | 4.33   | 0.19  | 1.37   |
| BAY AREA TRUCK TRIPS      | 2,453,750                  | 39,524,801  | 79.44   | 455.57  | 355.88 | 27.88 | 197.19 |
| LONG DISTANCE TRUCK TRIPS | 1,005,250                  | 48,691,797  | 91.42   | 581.63  | 408.40 | 34.35 | 242.93 |
| PORT OF RICHMOND TRUCKS   | 5,750                      | 64,688      | 0.12  | 0.77    | 0.54   | 0.05  | 0.32   |
| <hr/>                     |                            |             |   |         |        |       |        |
| Autos                     | 2,404,250                  | 37,230,951  | 11.0  | 21.6    | 155.9  | 1.2   | 127.6  |
| Trucks                    | 3,612,000                  | 88,555,170  | 171.9   | 1,041.3 | 769.2  | 62.5  | 441.8  |
| <hr/>                     |                            |             |   |         |        |       |        |
| Total                     | 6,016,250                  | 125,786,121 | 182.9   | 1,063.0 | 925.0  | 63.7  | 569.4  |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

Annual emission estimates assume 250 working days per year.

Annual carbon monoxide emission estimates assume 8 months of summer emission rates and 4 months of winter emission rates.

Sulfur oxide emissions assume emission rates of 0.03 grams/vmt for passenger vehicles (Bay Area Air Quality Management District, 1996) and 0.64 grams/vmt for heavy trucks (assuming 0.05% sulfur content for diesel fuel).

TABLE N-23. TRIP RATE CALCULATIONS WITH INTERNAL TRIP ADJUSTMENTS, ALTERNATIVE A

| Land Use or<br>Trip Generation<br>Category | Trip Estimate Basis | Base Trip<br>Generation<br>Rate | Vehicle<br>Generation<br>Rate | P/A Trip Rate Splits |             | Base Trip<br>Volume | % Productions              |  | Number of<br>Internal Trip<br>Productions | % Attractions         |  | Number of<br>Internal Trip<br>Attractions | Internal/<br>External<br>Trips | Net<br>Trips<br>Generated | Trip Rate             |                      |
|--|---------------------|---------------------------------|-------------------------------|----------------------|-------------|---------------------|----------------------------|--|---|-----------------------|--|---|--------------------------------|---------------------------|-----------------------|----------------------|
|  |                     |                                 |                               | Productions          | Attractions |                     | W Internal<br>Destinations |  |   | W Internal<br>Origins |  |   |                                |                           | Adjusted<br>Trip Rate | Adjustment<br>Factor |
| FISCO AREAS 1, 2, & 3                      | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%                         |  | 0   | 0%                    |  | 0   | 0                              | 0                         | 0.0                   | 0.0%                 |
| FISCO AREAS 4 & 5                          | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%                         |  | 0   | 0%                    |  | 0   | 0                              | 0                         | 0.0                   | 0.0%                 |
| JIT AREA                                   | 360 EMPLOYEES       | 3.50                            | 0.6                           | 10%                  | 90%         | 1,260               | 0%                         |  | 0   | 0%                    |  | 0   | 1,260                          | 1,260                     | 3.5                   | 0.0%                 |
| SPRR TERMINAL                              | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%                         |  | 0   | 0%                    |  | 0   | 0                              | 0                         | 0.0                   | 0.0%                 |
| UP RAIL TERMINAL                           | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%                         |  | 0   | 0%                    |  | 0   | 0                              | 0                         | 0.0                   | 0.0%                 |
| MARINE TERMINAL AREAS                      | 2,853 EMPLOYEES     | 3.50                            | 0.6                           | 10%                  | 90%         | 9,986               | 0%                         |  | 0   | 0%                    |  | 0   | 9,986                          | 9,986                     | 3.5                   | 0.0%                 |
| ON-SITE TRUCK TRIPS                        | 729 ACRES           | 8.12                            | 0.0                           | 50%                  | 50%         | 5,916               | 0%                         |  | 0   | 0%                    |  | 0   | 5,916                          | 5,916                     | 8.1                   | 0.0%                 |
| BAY AREA TRUCK TRIPS                       | 729 ACRES           | 14.84                           | 0.0                           | 50%                  | 50%         | 10,816              | 0%                         |  | 0   | 0%                    |  | 0   | 10,816                         | 10,816                    | 14.8                  | 0.0%                 |
| LONG DISTANCE TRUCK TRIPS                  | 729 ACRES           | 6.08                            | 0.0                           | 50%                  | 50%         | 4,431               | 0%                         |  | 0   | 0%                    |  | 0   | 4,431                          | 4,431                     | 6.1                   | 0.0%                 |
|  |                     |                                 |                               |                      |             | -----               |                            |  | -----                                     |                       |  | -----                                     | -----                          | -----                     |                       | -----                |
| TOTALS                                     |                     |                                 |                               |                      |             | 32,409              |                            |  | 0   |                       |  | 0   | 32,409                         | 32,409                    |                       | 0.0%                 |

Notes: Employment estimates by subarea taken from traffic modeling analyses performed by Dowling & Associates.

Average daily employee trip rate estimate provided by Jordan Woodman Dobson.

Average daily truck trip rates are back calculated from peak week truck trip estimates provided by Jordan Woodman Dobson; average daily truck trips are estimated to be 80% of peak week trips for marine terminals and 84% of peak week trips for rail terminals.

Bay Area truck trips represent 70.98% of the off-site truck trips; 29.02% of off-site truck trips are to or from locations outside the Bay Area.

The vehicle generation rate is used in the emissions analysis to compute diurnal and resting loss emissions from parked vehicles.

Production/attraction splits reflect the origin of a round trip.

Production/attraction split values and internal origin/destination percentages must balance internal productions with internal attractions.

Internal trip production/attraction balancing is not required by the trip generation approach used for this alternative.

Net trips generated = internal/external trips + 50% of internal productions + 50% of internal attractions.

TABLE N-24. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE A

| Land Use              | Trip Estimate Basis | Trip Purpose | Percent of Net Trips | Net Trip Rates | TCM Program Effect | Adjusted Net Trip Rate | Adjusted Net Trips | Overall TCM Effectiveness | Mean Trip Duration (Minutes) | Percent of Travel Time by Speed (mph) |       |       |       |       |
|-----------------------|---------------------|--------------|----------------------|----------------|--------------------|------------------------|--------------------|---------------------------|------------------------------|---------------------------------------|-------|-------|-------|-------|
|                       |                     |              |                      |                |                    |                        |                    |                           |                              | 15                                    | 25    | 35    | 45    | 55    |
| FISCO AREAS 1, 2, & 3 | 0 EMPLOYEES         | H-W          | 40.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| FISCO AREAS 4 & 5     | 0 EMPLOYEES         | H-W          | 40.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| JIT AREA              | 360 EMPLOYEES       | H-W          | 40.0%                | 1.4            | 0%                 | 1.4                    | 504                |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 63                 |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 1.8            | 0%                 | 1.8                    | 630                |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 63                 |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| SPRR TERMINAL         | 0 EMPLOYEES         | H-W          | 40.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| UP RAIL TERMINAL      | 0 EMPLOYEES         | H-W          | 40.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |

TABLE N-24. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE A

| Land Use                  | Trip Estimate Basis | Trip Purpose | Percent      | Net        | TCM            | Adjusted      | Adjusted  | Overall           | Mean Trip Duration (Minutes) | Percent of Travel Time by Speed (mph) |       |       |       |       |
|---------------------------|---------------------|--------------|--------------|------------|----------------|---------------|-----------|-------------------|------------------------------|---------------------------------------|-------|-------|-------|-------|
|                           |                     |              | of Net Trips | Trip Rates | Program Effect | Net Trip Rate | Net Trips | TCM Effectiveness |                              | 15                                    | 25    | 35    | 45    | 55    |
| MARINE TERMINAL AREAS     | 2,853 EMPLOYEES     | H-W          | 40.0%        | 1.4        | 0%             | 1.4           | 3,994     |                   | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                           |                     | H-S          | 0.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                           |                     | H-O          | 5.0%         | 0.2        | 0%             | 0.2           | 499       |                   | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                           |                     | O-W          | 50.0%        | 1.8        | 0%             | 1.8           | 4,993     |                   | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                           |                     | O-O          | 5.0%         | 0.2        | 0%             | 0.2           | 499       |                   | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| ON-SITE TRUCK TRIPS       | 729 ACRES           | O-O          | 100.0%       | 8.1        | 0%             | 8.1           | 5,916     |                   | 6.20                         | 75.0%                                 | 20.0% | 5.0%  | 0.0%  | 0.0%  |
| BAY AREA TRUCK TRIPS      | 729 ACRES           | O-O          | 100.0%       | 14.8       | 0%             | 14.8          | 10,816    |                   | 28.85                        | 15.0%                                 | 25.0% | 30.0% | 20.0% | 10.0% |
| LONG DISTANCE TRUCK TRIPS | 729 ACRES           | O-O          | 100.0%       | 6.1        | 0%             | 6.1           | 4,431     |                   | 77.50                        | 10.0%                                 | 20.0% | 25.0% | 25.0% | 20.0% |
| TOTALS                    |                     |              |              |            |                |               | 32,408    | 0.0%              |                              |                                       |       |       |       |       |

Notes: H-W = home-work trips

H-S = home-shopping trips

H-O = home-other trips

O-W = other-work trips

O-O = other-other trips

TCM = transportation control measures

Mean trip durations were derived from estimated travel time frequency distributions for home-work, home-shopping, home-other, other-work, and other-other trips, recognizing employee residency patterns plus travel times and distances between communities in the Bay Area.

Vehicle speed distributions were estimated from general road network features of the San Francisco Bay Area.



TABLE N-25. VEHICLE TRAVEL SUMMARY, ALTERNATIVE A

| LAND USE              | TRIP ESTIMATE BASIS | TRIP<br>PURPOSE | AVERAGE<br>DAILY<br>TRIPS | MEAN TRIP<br>DURATION<br>(MINUTES) | AVERAGE<br>DISTANCE<br>(MILES) | DAILY VMT<br>BY TRIP<br>PURPOSE | AVERAGE<br>TRAVEL<br>SPEED (MPH) |
|-----------------------|---------------------|-----------------|---------------------------|------------------------------------|--------------------------------|---------------------------------|----------------------------------|
| FISCO AREAS 1, 2, & 3 | 0 EMPLOYEES         | H-W             | 0                         | 24.8                               | 17.94                          | 0                               | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 0                         | 14.7                               | 8.59                           | 0                               | 35.0                             |
|                       |                     | O-W             | 0                         | 21.7                               | 14.83                          | 0                               | 41.0                             |
|                       |                     | O-O             | 0                         | 15.9                               | 9.29                           | 0                               | 35.0                             |
| FISCO AREAS 4 & 5     | 0 EMPLOYEES         | H-W             | 0                         | 24.8                               | 17.94                          | 0                               | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 0                         | 14.7                               | 8.59                           | 0                               | 35.0                             |
|                       |                     | O-W             | 0                         | 21.7                               | 14.83                          | 0                               | 41.0                             |
|                       |                     | O-O             | 0                         | 15.9                               | 9.29                           | 0                               | 35.0                             |
| JIT AREA              | 360 EMPLOYEES       | H-W             | 504                       | 24.8                               | 17.94                          | 9,044                           | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 63                        | 14.7                               | 8.59                           | 541                             | 35.0                             |
|                       |                     | O-W             | 630                       | 21.7                               | 14.83                          | 9,342                           | 41.0                             |
|                       |                     | O-O             | 63                        | 15.9                               | 9.29                           | 585                             | 35.0                             |
| SPRR TERMINAL         | 0 EMPLOYEES         | H-W             | 0                         | 24.8                               | 17.94                          | 0                               | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 0                         | 14.7                               | 8.59                           | 0                               | 35.0                             |
|                       |                     | O-W             | 0                         | 21.7                               | 14.83                          | 0                               | 41.0                             |
|                       |                     | O-O             | 0                         | 15.9                               | 9.29                           | 0                               | 35.0                             |
| UP RAIL TERMINAL      | 0 EMPLOYEES         | H-W             | 0                         | 24.8                               | 17.94                          | 0                               | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 0                         | 14.7                               | 8.59                           | 0                               | 35.0                             |
|                       |                     | O-W             | 0                         | 21.7                               | 14.83                          | 0                               | 41.0                             |
|                       |                     | O-O             | 0                         | 15.9                               | 9.29                           | 0                               | 35.0                             |

TABLE N-25. VEHICLE TRAVEL SUMMARY, ALTERNATIVE A

| LAND USE                  | TRIP ESTIMATE BASIS | TRIP<br>PURPOSE | AVERAGE<br>DAILY<br>TRIPS | MEAN TRIP<br>DURATION<br>(MINUTES) | AVERAGE<br>DISTANCE<br>(MILES) | DAILY VMT<br>BY TRIP<br>PURPOSE | AVERAGE<br>TRAVEL<br>SPEED (MPH) |
|---------------------------|---------------------|-----------------|---------------------------|------------------------------------|--------------------------------|---------------------------------|----------------------------------|
| MARINE TERMINAL AREAS     | 2,853 EMPLOYEES     | H-W             | 3,994                     | 24.8                               | 17.94                          | 71,667                          | 43.5                             |
|                           |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                           |                     | H-O             | 499                       | 14.7                               | 8.59                           | 4,288                           | 35.0                             |
|                           |                     | O-W             | 4,993                     | 21.7                               | 14.83                          | 74,038                          | 41.0                             |
|                           |                     | O-O             | 499                       | 15.9                               | 9.29                           | 4,637                           | 35.0                             |
| ON-SITE TRUCK TRIPS       | 729 ACRES           | O-O             | 5,916                     | 6.2                                | 1.86                           | 11,004                          | 18.0                             |
| BAY AREA TRUCK TRIPS      | 729 ACRES           | O-O             | 10,816                    | 28.9                               | 16.11                          | 174,223                         | 33.5                             |
| LONG DISTANCE TRUCK TRIPS | 729 ACRES           | O-O             | 4,431                     | 77.5                               | 48.44                          | 214,627                         | 37.5                             |
| .....                     |                     |                 |                           |                                    |                                |                                 |                                  |
| TOTALS:                   |                     | H-W             | 4,498                     | 24.8                               | 17.94                          | 80,711                          | 43.5                             |
|                           |                     | H-S             | 0                         | 0.0                                | 0.00                           | 0                               | 0.0                              |
|                           |                     | H-O             | 562                       | 14.8                               | 8.59                           | 4,829                           | 34.9                             |
|                           |                     | O-W             | 5,623                     | 21.7                               | 14.83                          | 83,380                          | 41.0                             |
|                           |                     | O-O             | 21,725                    | 32.3                               | 18.65                          | 405,076                         | 34.7                             |
|                           |                     |                 | -----                     | -----                              | -----                          | -----                           | -----                            |
|                           |                     |                 | 32,408                    | 29.1                               | 17.71                          | 573,996                         | 36.5                             |

Notes: H-W = home-work trips  
H-S = home-shopping trips  
H-O = home-other trips  
O-W = other-work trips  
O-O = other-other trips  
VMT = vehicle miles traveled

TABLE N-26. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE A

| Land Use              | Trip Estimate Basis | Trip Purpose | Average          | VMT by Category | Exhaust            | Exhaust            | Total PM10              | Summer            | Winter            | ROG                 | NOx                 | PM10                | Summer CO           | Winter CO           |
|-----------------------|---------------------|--------------|------------------|-----------------|--------------------|--------------------|-------------------------|-------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                       |                     |              | Distance (miles) |                 | ROG Rate (gm/mile) | NOx Rate (gm/mile) | Emission Rate (gm/mile) | CO Rate (gm/mile) | CO Rate (gm/mile) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) |
| FISCO AREAS 1, 2, & 3 | 0 EMPLOYEES         | H-W          | 17.94            | 0               | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 0               | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-W          | 14.83            | 0               | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-O          | 9.29             | 0               | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
| FISCO AREAS 4 & 5     | 0 EMPLOYEES         | H-W          | 17.94            | 0               | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 0               | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-W          | 14.83            | 0               | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-O          | 9.29             | 0               | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
| JIT AREA              | 360 EMPLOYEES       | H-W          | 17.94            | 9,044           | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 5.5                 | 10.7                | 62.0                | 72.0                | 93.3                |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 541             | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.4                 | 0.6                 | 3.7                 | 4.7                 | 6.1                 |
|                       |                     | O-W          | 14.83            | 9,342           | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 5.3                 | 10.8                | 64.0                | 68.8                | 87.5                |
|                       |                     | O-O          | 9.29             | 585             | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.3                 | 0.6                 | 4.0                 | 3.8                 | 4.7                 |
| SPRR TERMINAL         | 0 EMPLOYEES         | H-W          | 17.94            | 0               | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 0               | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-W          | 14.83            | 0               | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-O          | 9.29             | 0               | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
| UP RAIL TERMINAL      | 0 EMPLOYEES         | H-W          | 17.94            | 0               | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 0               | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-W          | 14.83            | 0               | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-O          | 9.29             | 0               | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |

TABLE N-26. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE A

| Land Use                  | Trip Estimate Basis | Trip Purpose | Average Distance (miles) | VMT by Category | Exhaust ROG Rate (gm/mile) | Exhaust NOx Rate (gm/mile) | Total PM10 Emission Rate (gm/mile) | Summer CO Rate (gm/mile) | Winter CO Rate (gm/mile) | ROG Emissions (lbs/day) | NOx Emissions (lbs/day) | PM10 Emissions (lbs/day) | Summer CO Emissions (lbs/day) | Winter CO Emissions (lbs/day) |
|---------------------------|---------------------|--------------|--------------------------|-----------------|----------------------------|----------------------------|------------------------------------|--------------------------|--------------------------|-------------------------|-------------------------|--------------------------|-------------------------------|-------------------------------|
| MARINE TERMINAL AREAS     | 2,853 EMPLOYEES     | H-W          | 17.94                    | 71,667          | 0.26                       | 0.54                       | 3.11                               | 3.61                     | 4.68                     | 43.8                    | 84.6                    | 491.2                    | 570.3                         | 739.0                         |
|                           |                     | H-S          | 7.40                     | 0               | 0.28                       | 0.55                       | 3.11                               | 3.86                     | 4.95                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                           |                     | H-O          | 8.59                     | 4,288           | 0.29                       | 0.53                       | 3.11                               | 3.97                     | 5.13                     | 3.2                     | 5.0                     | 29.4                     | 37.5                          | 48.5                          |
|                           |                     | O-W          | 14.83                    | 74,038          | 0.23                       | 0.52                       | 3.11                               | 3.34                     | 4.25                     | 42.2                    | 85.3                    | 507.5                    | 545.2                         | 693.5                         |
|                           |                     | O-O          | 9.29                     | 4,637           | 0.21                       | 0.47                       | 3.11                               | 2.94                     | 3.61                     | 2.5                     | 4.9                     | 31.8                     | 30.1                          | 36.9                          |
| ON-SITE TRUCK TRIPS       | 729 ACRES           | O-O          | 1.86                     | 11,004          | 2.97                       | 11.14                      | 4.53                               | 14.32                    | 14.42                    | 72.5                    | 270.4                   | 109.8                    | 347.4                         | 349.8                         |
| BAY AREA TRUCK TRIPS      | 729 ACRES           | O-O          | 16.11                    | 174,223         | 1.82                       | 10.46                      | 4.53                               | 8.15                     | 8.21                     | 700.3                   | 4,016.3                 | 1,738.4                  | 3,130.2                       | 3,151.9                       |
| LONG DISTANCE TRUCK TRIPS | 729 ACRES           | O-O          | 48.44                    | 214,627         | 1.67                       | 10.84                      | 4.53                               | 7.59                     | 7.64                     | 805.9                   | 5,127.5                 | 2,141.6                  | 3,591.9                       | 3,617.2                       |
| TOTALS                    |                     |              | 17.71                    | 573,996         |                            |                            |                                    |                          |                          | 1,681.9                 | 9,616.6                 | 5,183.4                  | 8,401.7                       | 8,828.4                       |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

CO = carbon monoxide

Average trip distances are calculated from mean trip durations and the distribution of travel time by speed categories.

Different travel patterns and vehicle type mixes are assumed for employee trips and truck trips.

Average exhaust emission rates based on VMT-weighting of emission rates for the five speed categories, with weighting factors calculated in a manner consistent with the travel time and speed assumptions used to compute average trip lengths.



TABLE N-27. SUMMARY OF TRAFFIC-RELATED OZONE PRECURSOR EMISSIONS, ALTERNATIVE A AND EMISSION RATES FOR 2010

| Land Use                  | Amount of Development | Net Daily Vehicle Trip Generation |                | Total Trips | Daily VMT Estimate | Average Summer Day Traffic-Related Ozone Precursor Emissions (pounds per day) | Average Daily Exhaust Plus Entrained PM10 Emissions (pounds per day) | Average Daily Traffic-Related Carbon Monoxide Emissions (pounds per day) |         |         |
|---------------------------|-----------------------|-----------------------------------|----------------|-------------|--------------------|---|--|--|---------|---------|
|                           |                       | Internal Trips                    | External Trips |             |                    | ROG   | NOx  | Summer   | Winter  |         |
|                           |                       |                                   |                |             |                    |   |  |  |         |         |
| FISCO AREAS 1, 2, & 3     | 0 EMPLOYEES           | 0                                 | 0              | 0           | 0                  | 0.0   | 0.0  | 0.0  | 0.0     | 0.0     |
| FISCO AREAS 4 & 5         | 0 EMPLOYEES           | 0                                 | 0              | 0           | 0                  | 0.0   | 0.0  | 0.0  | 0.0     | 0.0     |
| JIT AREA                  | 360 EMPLOYEES         | 0                                 | 1,260          | 1,260       | 19,512             | 11.6  | 22.7   | 133.7  | 149.3   | 191.5   |
| SPRR TERMINAL             | 0 EMPLOYEES           | 0                                 | 0              | 0           | 0                  | 0.0   | 0.0  | 0.0  | 0.0     | 0.0     |
| UP RAIL TERMINAL          | 0 EMPLOYEES           | 0                                 | 0              | 0           | 0                  | 0.0   | 0.0  | 0.0  | 0.0     | 0.0     |
| MARINE TERMINAL AREAS     | 2,853 EMPLOYEES       | 0                                 | 9,985          | 9,985       | 154,630            | 91.7  | 179.8  | 1,059.9  | 1,183.0 | 1,518.0 |
| ON-SITE TRUCK TRIPS       | 729 ACRES             | 5,916                             | 0              | 5,916       | 11,004             | 72.5  | 270.4  | 109.8  | 347.4   | 349.8   |
| BAY AREA TRUCK TRIPS      | 729 ACRES             | 0                                 | 10,816         | 10,816      | 174,223            | 700.3   | 4,016.3  | 1,738.4  | 3,130.2 | 3,151.9 |
| LONG DISTANCE TRUCK TRIPS | 729 ACRES             | 0                                 | 4,431          | 4,431       | 214,627            | 805.9   | 5,127.5  | 2,141.6  | 3,591.9 | 3,617.2 |
|                           |                       |                                   |                |             |                    |   |  |  |         |         |
| Auto Trips:               |                       | 0                                 | 11,245         | 11,245      | 174,142            | 103.3   | 202.5  | 1,193.7  | 1,332.2 | 1,709.5 |
| Truck Trips:              |                       | 5,916                             | 15,247         | 21,163      | 399,854            | 1,578.7   | 9,414.1  | 3,989.8  | 7,069.5 | 7,118.9 |
|                           |                       |                                   |                |             |                    |   |  |  |         |         |
| Total                     |                       | 5,916                             | 26,492         | 32,408      | 573,996            | 1,681.9   | 9,616.6  | 5,183.4  | 8,401.7 | 8,828.4 |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

Different travel patterns and vehicle type mixes are assumed for employee trips and truck trips.

TABLE N-28. ESTIMATED ANNUAL VEHICLE TRAFFIC EMISSIONS, ALTERNATIVE A

| Land Use                  | Annual<br>Vehicle<br>Trips | Annual VMT  | Estimated Annual Vehicle Emissions<br>(Tons Per Year) For Alternative A |         |         |       |        |
|---------------------------|----------------------------|-------------|---|---------|---------|-------|--------|
|                           |                            |             | ROG   | NOx     | CO      | SOx   | PM10   |
| FISCO AREAS 1, 2, & 3     | 0                          | 0           | 0.00  | 0.00    | 0.00    | 0.00  | 0.00   |
| FISCO AREAS 4 & 5         | 0                          | 0           | 0.00  | 0.00    | 0.00    | 0.00  | 0.00   |
| JIT AREA                  | 315,000                    | 4,878,064   | 1.45  | 2.84    | 20.42   | 0.16  | 16.72  |
| SPRR TERMINAL             | 0                          | 0           | 0.00  | 0.00    | 0.00    | 0.00  | 0.00   |
| UP RAIL TERMINAL          | 0                          | 0           | 0.00  | 0.00    | 0.00    | 0.00  | 0.00   |
| MARINE TERMINAL AREAS     | 2,496,250                  | 38,657,455  | 11.46   | 22.48   | 161.83  | 1.28  | 132.49 |
| ON-SITE TRUCK TRIPS       | 1,479,000                  | 2,750,940   | 9.06  | 33.80   | 43.52   | 1.94  | 13.72  |
| BAY AREA TRUCK TRIPS      | 2,704,000                  | 43,555,807  | 87.54   | 502.03  | 392.18  | 30.73 | 217.30 |
| LONG DISTANCE TRUCK TRIPS | 1,107,750                  | 53,656,641  | 100.74  | 640.94  | 450.04  | 37.85 | 267.70 |
|                           |                            |             |   |         |         |       |        |
| Autos                     | 2,811,250                  | 43,535,519  | 12.9  | 25.3    | 182.2   | 1.4   | 149.2  |
| Trucks                    | 5,290,750                  | 99,963,387  | 197.3   | 1,176.8 | 885.7   | 70.5  | 498.7  |
|                           |                            |             |   |         |         |       |        |
| Total                     | 8,102,000                  | 143,498,906 | 210.2   | 1,202.1 | 1,068.0 | 72.0  | 647.9  |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

Annual emission estimates assume 250 working days per year.

Annual carbon monoxide emission estimates assume 8 months of summer emission rates and 4 months of winter emission rates.

Sulfur oxide emissions assume emission rates of 0.03 grams/vmt for passenger vehicles (Bay Area Air Quality Management District, 1996) and 0.64 grams/vmt for heavy trucks (assuming 0.05% sulfur content for diesel fuel).

TABLE N-29. TRIP RATE CALCULATIONS WITH INTERNAL TRIP ADJUSTMENTS, ALTERNATIVE B

| Land Use or<br>Trip Generation<br>Category | Trip Estimate Basis | Base Trip<br>Generation<br>Rate | Vehicle<br>Generation<br>Rate | P/A Trip Rate Splits |             | Base Trip<br>Volume | % Productions              |  | Number of<br>Internal Trip<br>Productions | % Attractions         |  | Number of<br>Internal Trip<br>Attractions | Internal/<br>External<br>Trips | Net<br>Trips<br>Generated | Adjusted<br>Trip Rate | Trip Rate<br>Adjustment<br>Factor |
|--|---------------------|---------------------------------|-------------------------------|----------------------|-------------|---------------------|----------------------------|--|---|-----------------------|--|---|--------------------------------|---------------------------|-----------------------|-----------------------------------|
|  |                     |                                 |                               | Productions          | Attractions |                     | W Internal<br>Destinations |  |   | W Internal<br>Origins |  |   |                                |                           |                       |                                   |
| FISCO AREAS 1, 2, & 3                      | 400 EMPLOYEES       | 3.50                            | 0.6                           | 10%                  | 90%         | 1,400               | 0%                         |  | 0   | 0%                    |  | 0   | 1,400                          | 1,400                     | 3.5                   | 0.0%                              |
| FISCO AREAS 4 & 5                          | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%                         |  | 0   | 0%                    |  | 0   | 0                              | 0                         | 0.0                   | 0.0%                              |
| JIT AREA                                   | 167 EMPLOYEES       | 3.50                            | 0.6                           | 10%                  | 90%         | 585                 | 0%                         |  | 0   | 0%                    |  | 0   | 585                            | 585                       | 3.5                   | 0.0%                              |
| SPRR TERMINAL                              | 150 EMPLOYEES       | 3.50                            | 0.6                           | 10%                  | 90%         | 525                 | 0%                         |  | 0   | 0%                    |  | 0   | 525                            | 525                       | 3.5                   | 0.0%                              |
| UP RAIL TERMINAL                           | 67 EMPLOYEES        | 3.50                            | 0.6                           | 10%                  | 90%         | 235                 | 0%                         |  | 0   | 0%                    |  | 0   | 235                            | 235                       | 3.5                   | 0.0%                              |
| MARINE TERMINAL AREAS                      | 2,312 EMPLOYEES     | 3.50                            | 0.6                           | 10%                  | 90%         | 8,092               | 0%                         |  | 0   | 0%                    |  | 0   | 8,092                          | 8,092                     | 3.5                   | 0.0%                              |
| ON-SITE TRUCK TRIPS                        | 591 ACRES           | 3.91                            | 0.0                           | 50%                  | 50%         | 2,313               | 0%                         |  | 0   | 0%                    |  | 0   | 2,313                          | 2,313                     | 3.9                   | 0.0%                              |
| BAY AREA TRUCK TRIPS                       | 591 ACRES           | 18.30                           | 0.0                           | 50%                  | 50%         | 10,817              | 0%                         |  | 0   | 0%                    |  | 0   | 10,817                         | 10,817                    | 18.3                  | 0.0%                              |
| LONG DISTANCE TRUCK TRIPS                  | 591 ACRES           | 7.50                            | 0.0                           | 50%                  | 50%         | 4,432               | 0%                         |  | 0   | 0%                    |  | 0   | 4,432                          | 4,432                     | 7.5                   | 0.0%                              |
| TOTALS                                     |                     |                                 |                               |                      |             | 28,399              |                            |  | 0   |                       |  | 0   | 28,399                         | 28,399                    |                       | 0.0%                              |

Notes: Employment estimates by subarea taken from traffic modeling analyses performed by Dowling & Associates.

Average daily employee trip rates are based on ITE trip generation manual rates for light industrial uses (Institute of Transportation Engineers, 1991).

Average daily truck trip rates are back calculated from peak week truck trip estimates provided by Jordan Woodman Dobson; average daily truck trips are estimated to be 80% of peak week trips for marine terminals and 84% of peak week trips for rail terminals.

Bay Area truck trips represent 70.98% of the off-site truck trips; 29.02% of off-site truck trips are to or from locations outside the Bay Area.

The vehicle generation rate is used in the emissions analysis to compute diurnal and resting loss emissions from parked vehicles.

Production/attraction splits reflect the origin of a round trip.

Production/attraction split values and internal origin/destination percentages must balance internal productions with internal attractions.

Internal trip production/attraction balancing is not required by the trip generation approach used for this alternative.

Net trips generated = internal/external trips + 50% of internal productions + 50% of internal attractions.

TABLE N-30. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE B

| Land Use              | Trip Estimate Basis | Trip Purpose | Percent of Net Trips | Net Trip Rates | TCM Program Effect | Adjusted Net Trip Rate | Adjusted Net Trips | Overall TCM Effectiveness | Mean Trip Duration (Minutes) | Percent of Travel Time by Speed (mph) |       |       |       |       |
|-----------------------|---------------------|--------------|----------------------|----------------|--------------------|------------------------|--------------------|---------------------------|------------------------------|---------------------------------------|-------|-------|-------|-------|
|                       |                     |              |                      |                |                    |                        |                    |                           |                              | 15                                    | 25    | 35    | 45    | 55    |
| FISCO AREAS 1, 2, & 3 | 400 EMPLOYEES       | H-W          | 40.0%                | 1.4            | 0%                 | 1.4                    | 560                |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 70                 |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 1.8            | 0%                 | 1.8                    | 700                |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 70                 |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| FISCO AREAS 4 & 5     | 0 EMPLOYEES         | H-W          | 40.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| JIT AREA              | 167 EMPLOYEES       | H-W          | 40.0%                | 1.4            | 0%                 | 1.4                    | 234                |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 29                 |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 1.8            | 0%                 | 1.8                    | 293                |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 29                 |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| SPRR TERMINAL         | 150 EMPLOYEES       | H-W          | 40.0%                | 1.4            | 0%                 | 1.4                    | 210                |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 26                 |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 1.8            | 0%                 | 1.8                    | 263                |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 26                 |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| UP RAIL TERMINAL      | 67 EMPLOYEES        | H-W          | 40.0%                | 1.4            | 0%                 | 1.4                    | 94                 |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 12                 |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 1.8            | 0%                 | 1.8                    | 118                |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 12                 |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |



TABLE N-30. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE B

| Land Use                  | Trip Estimate Basis | Trip Purpose | Percent | Net   | TCM     | Adjusted  | Adjusted | Overall       | Mean Trip | Percent of Travel Time by Speed (mph) |       |       |       |       |
|---------------------------|---------------------|--------------|---------|-------|---------|-----------|----------|---------------|-----------|---------------------------------------|-------|-------|-------|-------|
|                           |                     |              | of Net  | Trip  | Program | Net       | Net      | TCM           | Duration  | -----                                 |       |       |       |       |
|                           |                     |              | Trips   | Rates | Effect  | Trip Rate | Trips    | Effectiveness | (Minutes) | 15                                    | 25    | 35    | 45    | 55    |
| MARINE TERMINAL AREAS     | 2,312 EMPLOYEES     | H-W          | 40.0%   | 1.4   | 0%      | 1.4       | 3,237    |               | 24.75     | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                           |                     | H-S          | 0.0%    | 0.0   | 0%      | 0.0       | 0        |               | 12.50     | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                           |                     | H-O          | 5.0%    | 0.2   | 0%      | 0.2       | 405      |               | 14.73     | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                           |                     | O-W          | 50.0%   | 1.8   | 0%      | 1.8       | 4,046    |               | 21.70     | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                           |                     | O-O          | 5.0%    | 0.2   | 0%      | 0.2       | 405      |               | 15.93     | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| ON-SITE TRUCK TRIPS       | 591 ACRES           | O-O          | 100.0%  | 3.9   | 0%      | 3.9       | 2,313    |               | 6.20      | 75.0%                                 | 20.0% | 5.0%  | 0.0%  | 0.0%  |
| BAY AREA TRUCK TRIPS      | 591 ACRES           | O-O          | 100.0%  | 18.3  | 0%      | 18.3      | 10,817   |               | 28.85     | 15.0%                                 | 25.0% | 30.0% | 20.0% | 10.0% |
| LONG DISTANCE TRUCK TRIPS | 591 ACRES           | O-O          | 100.0%  | 7.5   | 0%      | 7.5       | 4,432    |               | 77.50     | 10.0%                                 | 20.0% | 25.0% | 25.0% | 20.0% |
| TOTALS                    |                     |              |         |       |         |           | 28,401   | 0.0%          |           |                                       |       |       |       |       |

Notes: H-W = home-work trips

H-S = home-shopping trips

H-O = home-other trips

O-W = other-work trips

O-O = other-other trips

TCM = transportation control measures

Mean trip durations were derived from estimated travel time frequency distributions for home-work, home-shopping, home-other, other-work, and other-other trips, recognizing employee residency patterns plus travel times and distances between communities in the Bay Area.

Vehicle speed distributions were estimated from general road network features of the San Francisco Bay Area.

TABLE N-31. VEHICLE TRAVEL SUMMARY, ALTERNATIVE B

| LAND USE              | TRIP ESTIMATE BASIS | TRIP<br>PURPOSE | AVERAGE<br>DAILY<br>TRIPS | MEAN TRIP<br>DURATION<br>(MINUTES) | AVERAGE<br>DISTANCE<br>(MILES) | DAILY VMT<br>BY TRIP<br>PURPOSE | AVERAGE<br>TRAVEL<br>SPEED (MPH) |
|-----------------------|---------------------|-----------------|---------------------------|------------------------------------|--------------------------------|---------------------------------|----------------------------------|
| FISCO AREAS 1, 2, & 3 | 400 EMPLOYEES       | H-W             | 560                       | 24.8                               | 17.94                          | 10,049                          | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 70                        | 14.7                               | 8.59                           | 601                             | 35.0                             |
|                       |                     | O-W             | 700                       | 21.7                               | 14.83                          | 10,380                          | 41.0                             |
|                       |                     | O-O             | 70                        | 15.9                               | 9.29                           | 650                             | 35.0                             |
| FISCO AREAS 4 & 5     | 0 EMPLOYEES         | H-W             | 0                         | 24.8                               | 17.94                          | 0                               | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 0                         | 14.7                               | 8.59                           | 0                               | 35.0                             |
|                       |                     | O-W             | 0                         | 21.7                               | 14.83                          | 0                               | 41.0                             |
|                       |                     | O-O             | 0                         | 15.9                               | 9.29                           | 0                               | 35.0                             |
| JIT AREA              | 167 EMPLOYEES       | H-W             | 234                       | 24.8                               | 17.94                          | 4,199                           | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 29                        | 14.7                               | 8.59                           | 249                             | 35.0                             |
|                       |                     | O-W             | 293                       | 21.7                               | 14.83                          | 4,345                           | 41.0                             |
|                       |                     | O-O             | 29                        | 15.9                               | 9.29                           | 269                             | 35.0                             |
| SPRR TERMINAL         | 150 EMPLOYEES       | H-W             | 210                       | 24.8                               | 17.94                          | 3,768                           | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 26                        | 14.7                               | 8.59                           | 223                             | 35.0                             |
|                       |                     | O-W             | 263                       | 21.7                               | 14.83                          | 3,900                           | 41.0                             |
|                       |                     | O-O             | 26                        | 15.9                               | 9.29                           | 242                             | 35.0                             |
| UP RAIL TERMINAL      | 67 EMPLOYEES        | H-W             | 94                        | 24.8                               | 17.94                          | 1,687                           | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 12                        | 14.7                               | 8.59                           | 103                             | 35.0                             |
|                       |                     | O-W             | 118                       | 21.7                               | 14.83                          | 1,750                           | 41.0                             |
|                       |                     | O-O             | 12                        | 15.9                               | 9.29                           | 112                             | 35.0                             |

TABLE N-31. VEHICLE TRAVEL SUMMARY, ALTERNATIVE B

| LAND USE                  | TRIP ESTIMATE BASIS | TRIP<br>PURPOSE | AVERAGE<br>DAILY<br>TRIPS | MEAN TRIP<br>DURATION<br>(MINUTES) | AVERAGE<br>DISTANCE<br>(MILES) | DAILY VMT<br>BY TRIP<br>PURPOSE | AVERAGE<br>TRAVEL<br>SPEED (MPH) |
|---------------------------|---------------------|-----------------|---------------------------|------------------------------------|--------------------------------|---------------------------------|----------------------------------|
| MARINE TERMINAL AREAS     | 2,312 EMPLOYEES     | H-W             | 3,237                     | 24.8                               | 17.94                          | 58,084                          | 43.5                             |
|                           |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                           |                     | H-O             | 405                       | 14.7                               | 8.59                           | 3,480                           | 35.0                             |
|                           |                     | O-W             | 4,046                     | 21.7                               | 14.83                          | 59,995                          | 41.0                             |
|                           |                     | O-O             | 405                       | 15.9                               | 9.29                           | 3,763                           | 35.0                             |
| ON-SITE TRUCK TRIPS       | 591 ACRES           | O-O             | 2,313                     | 6.2                                | 1.86                           | 4,302                           | 18.0                             |
| BAY AREA TRUCK TRIPS      | 591 ACRES           | O-O             | 10,817                    | 28.9                               | 16.11                          | 174,239                         | 33.5                             |
| LONG DISTANCE TRUCK TRIPS | 591 ACRES           | O-O             | 4,432                     | 77.5                               | 48.44                          | 214,675                         | 37.5                             |
| .....                     |                     |                 |                           |                                    |                                |                                 |                                  |
| TOTALS:                   |                     | H-W             | 4,335                     | 24.8                               | 17.94                          | 77,786                          | 43.5                             |
|                           |                     | H-S             | 0                         | 0.0                                | 0.00                           | 0                               | 0.0                              |
|                           |                     | H-O             | 542                       | 14.8                               | 8.59                           | 4,657                           | 34.9                             |
|                           |                     | O-W             | 5,420                     | 21.7                               | 14.83                          | 80,370                          | 41.0                             |
|                           |                     | O-O             | 18,104                    | 37.5                               | 22.00                          | 398,253                         | 35.2                             |
|                           |                     |                 | -----                     | -----                              | -----                          | -----                           | -----                            |
|                           |                     |                 | 28,401                    | 32.1                               | 19.76                          | 561,066                         | 36.9                             |

Notes: H-W = home-work trips  
H-S = home-shopping trips  
H-O = home-other trips  
O-W = other-work trips  
O-O = other-other trips  
VMT = vehicle miles traveled

TABLE N-32. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE B

| Land Use              | Trip Estimate Basis | Trip Purpose | Average          | VMT by Category | Exhaust            | Exhaust            | Total PM10              | Summer            | Winter            | ROG                 | NOx                 | PM10                | Summer CO           | Winter CO           |
|-----------------------|---------------------|--------------|------------------|-----------------|--------------------|--------------------|-------------------------|-------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                       |                     |              | Distance (miles) |                 | ROG Rate (gm/mile) | NOx Rate (gm/mile) | Emission Rate (gm/mile) | CO Rate (gm/mile) | CO Rate (gm/mile) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) |
| FISCO AREAS 1, 2, & 3 | 400 EMPLOYEES       | H-W          | 17.94            | 10,049          | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 6.1                 | 11.9                | 68.9                | 80.0                | 103.6               |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 601             | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.4                 | 0.7                 | 4.1                 | 5.3                 | 6.8                 |
|                       |                     | O-W          | 14.83            | 10,380          | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 5.9                 | 12.0                | 71.1                | 76.4                | 97.2                |
|                       |                     | O-O          | 9.29             | 650             | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.4                 | 0.7                 | 4.5                 | 4.2                 | 5.2                 |
| FISCO AREAS 4 & 5     | 0 EMPLOYEES         | H-W          | 17.94            | 0               | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 0               | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-W          | 14.83            | 0               | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-O          | 9.29             | 0               | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
| JIT AREA              | 167 EMPLOYEES       | H-W          | 17.94            | 4,199           | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 2.6                 | 5.0                 | 28.8                | 33.4                | 43.3                |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 249             | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.2                 | 0.3                 | 1.7                 | 2.2                 | 2.8                 |
|                       |                     | O-W          | 14.83            | 4,345           | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 2.5                 | 5.0                 | 29.8                | 32.0                | 40.7                |
|                       |                     | O-O          | 9.29             | 269             | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.1                 | 0.3                 | 1.8                 | 1.7                 | 2.1                 |
| SPRR TERMINAL         | 150 EMPLOYEES       | H-W          | 17.94            | 3,768           | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 2.3                 | 4.4                 | 25.8                | 30.0                | 38.9                |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 223             | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.2                 | 0.3                 | 1.5                 | 2.0                 | 2.5                 |
|                       |                     | O-W          | 14.83            | 3,900           | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 2.2                 | 4.5                 | 26.7                | 28.7                | 36.5                |
|                       |                     | O-O          | 9.29             | 242             | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.1                 | 0.3                 | 1.7                 | 1.6                 | 1.9                 |
| UP RAIL TERMINAL      | 67 EMPLOYEES        | H-W          | 17.94            | 1,687           | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 1.0                 | 2.0                 | 11.6                | 13.4                | 17.4                |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 103             | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.1                 | 0.1                 | 0.7                 | 0.9                 | 1.2                 |
|                       |                     | O-W          | 14.83            | 1,750           | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 1.0                 | 2.0                 | 12.0                | 12.9                | 16.4                |
|                       |                     | O-O          | 9.29             | 112             | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.1                 | 0.1                 | 0.8                 | 0.7                 | 0.9                 |



TABLE N-32. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE B

| Land Use                  | Trip Estimate Basis | Trip Purpose | Average Distance (miles) | VMT by Category | Exhaust ROG Rate (gm/mile) | Exhaust NOx Rate (gm/mile) | Total PM10 Emission Rate (gm/mile) | Summer CO Rate (gm/mile) | Winter CO Rate (gm/mile) | ROG Emissions (lbs/day) | NOx Emissions (lbs/day) | PM10 Emissions (lbs/day) | Summer CO Emissions (lbs/day) | Winter CO Emissions (lbs/day) |
|---------------------------|---------------------|--------------|--------------------------|-----------------|----------------------------|----------------------------|------------------------------------|--------------------------|--------------------------|-------------------------|-------------------------|--------------------------|-------------------------------|-------------------------------|
| MARINE TERMINAL AREAS     | 2,312 EMPLOYEES     | H-W          | 17.94                    | 58,084          | 0.26                       | 0.54                       | 3.11                               | 3.61                     | 4.68                     | 35.5                    | 68.6                    | 398.1                    | 462.2                         | 598.9                         |
|                           |                     | H-S          | 7.40                     | 0               | 0.28                       | 0.55                       | 3.11                               | 3.86                     | 4.95                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                           |                     | H-O          | 8.59                     | 3,480           | 0.29                       | 0.53                       | 3.11                               | 3.97                     | 5.13                     | 2.6                     | 4.0                     | 23.9                     | 30.4                          | 39.4                          |
|                           |                     | O-W          | 14.83                    | 59,995          | 0.23                       | 0.52                       | 3.11                               | 3.34                     | 4.25                     | 34.2                    | 69.2                    | 411.2                    | 441.8                         | 562.0                         |
|                           |                     | O-O          | 9.29                     | 3,763           | 0.21                       | 0.47                       | 3.11                               | 2.94                     | 3.61                     | 2.1                     | 3.9                     | 25.8                     | 24.4                          | 30.0                          |
| ON-SITE TRUCK TRIPS       | 591 ACRES           | O-O          | 1.86                     | 4,302           | 2.97                       | 11.14                      | 4.53                               | 14.32                    | 14.42                    | 28.3                    | 105.7                   | 42.9                     | 135.8                         | 136.7                         |
| BAY AREA TRUCK TRIPS      | 591 ACRES           | O-O          | 16.11                    | 174,239         | 1.82                       | 10.46                      | 4.53                               | 8.15                     | 8.21                     | 700.4                   | 4,016.6                 | 1,738.6                  | 3,130.5                       | 3,152.2                       |
| LONG DISTANCE TRUCK TRIPS | 591 ACRES           | O-O          | 48.44                    | 214,675         | 1.67                       | 10.84                      | 4.53                               | 7.59                     | 7.64                     | 806.1                   | 5,128.7                 | 2,142.1                  | 3,592.7                       | 3,618.1                       |
| TOTALS                    |                     |              | 19.76                    | 561,066         |                            |                            |                                    |                          |                          | 1,634.3                 | 9,446.2                 | 5,074.1                  | 8,143.1                       | 8,554.7                       |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

CO = carbon monoxide

Average trip distances are calculated from mean trip durations and the distribution of travel time by speed categories.

Different travel patterns and vehicle type mixes are assumed for employee trips and truck trips.

Average exhaust emission rates based on VMT-weighting of emission rates for the five speed categories, with weighting factors calculated in a manner consistent with the travel time and speed assumptions used to compute average trip lengths.

TABLE N-33. SUMMARY OF TRAFFIC-RELATED OZONE PRECURSOR EMISSIONS, ALTERNATIVE B AND EMISSION RATES FOR 2010

| Land Use                  | Amount of Development | Net Daily Vehicle Trip Generation |                |             | Daily VMT Estimate | Average Summer Day Traffic-Related Ozone Precursor Emissions (pounds per day) |         | Average Daily Exhaust Plus Entrained PM10 Emissions (pounds per day) | Average Daily Traffic-Related Carbon Monoxide Emissions (pounds per day) |         |
|---------------------------|-----------------------|-----------------------------------|----------------|-------------|--------------------|---|---------|--|--|---------|
|                           |                       | Internal Trips                    | External Trips | Total Trips |                    | ROG   | NOx     |  | Summer   | Winter  |
| FISCO AREAS 1, 2, & 3     | 400 EMPLOYEES         | 0                                 | 1,400          | 1,400       | 21,680             | 12.9  | 25.2    | 148.6  | 165.9  | 212.8   |
| FISCO AREAS 4 & 5         | 0 EMPLOYEES           | 0                                 | 0              | 0           | 0                  | 0.0   | 0.0     | 0.0  | 0.0  | 0.0     |
| JIT AREA                  | 167 EMPLOYEES         | 0                                 | 585            | 585         | 9,062              | 5.4   | 10.5    | 62.1   | 69.3   | 89.0    |
| SPRR TERMINAL             | 150 EMPLOYEES         | 0                                 | 525            | 525         | 8,133              | 4.8   | 9.5     | 55.7   | 62.2   | 79.8    |
| UP RAIL TERMINAL          | 67 EMPLOYEES          | 0                                 | 236            | 236         | 3,651              | 2.2   | 4.2     | 25.0   | 27.9   | 35.8    |
| MARINE TERMINAL AREAS     | 2,312 EMPLOYEES       | 0                                 | 8,093          | 8,093       | 125,323            | 74.3  | 145.7   | 859.0  | 958.8  | 1,230.3 |
| ON-SITE TRUCK TRIPS       | 591 ACRES             | 2,313                             | 0              | 2,313       | 4,302              | 28.3  | 105.7   | 42.9   | 135.8  | 136.7   |
| BAY AREA TRUCK TRIPS      | 591 ACRES             | 0                                 | 10,817         | 10,817      | 174,239            | 700.4   | 4,016.6 | 1,738.6  | 3,130.5  | 3,152.2 |
| LONG DISTANCE TRUCK TRIPS | 591 ACRES             | 0                                 | 4,432          | 4,432       | 214,675            | 806.1   | 5,128.7 | 2,142.1  | 3,592.7  | 3,618.1 |
| Auto Trips:               |                       | 0                                 | 10,839         | 10,839      | 167,849            | 99.5  | 195.2   | 1,150.5  | 1,284.1  | 1,647.7 |
| Truck Trips:              |                       | 2,313                             | 15,249         | 17,562      | 393,217            | 1,534.8   | 9,251.0 | 3,923.6  | 6,859.0  | 6,907.0 |
| Total                     |                       | 2,313                             | 26,088         | 28,401      | 561,066            | 1,634.3   | 9,446.2 | 5,074.1  | 8,143.1  | 8,554.7 |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

Different travel patterns and vehicle type mixes are assumed for employee trips and truck trips.

TABLE N-34. ESTIMATED ANNUAL VEHICLE TRAFFIC EMISSIONS, ALTERNATIVE B

| Land Use                  | Annual<br>Vehicle<br>Trips | Annual VMT  | Estimated Annual Vehicle Emissions<br>(Tons Per Year) For Alternative B |         |         |       |        |
|---------------------------|----------------------------|-------------|---|---------|---------|-------|--------|
|                           |                            |             | ROG   | NOx     | CO      | SOx   | PM10   |
| FISCO AREAS 1, 2, & 3     | 350,000                    | 5,420,071   | 1.61  | 3.15    | 22.69   | 0.18  | 18.58  |
| FISCO AREAS 4 & 5         | 0                          | 0           | 0.00  | 0.00    | 0.00    | 0.00  | 0.00   |
| JIT AREA                  | 146,250                    | 2,265,551   | 0.67  | 1.32    | 9.48    | 0.07  | 7.76   |
| SPRR TERMINAL             | 131,250                    | 2,033,262   | 0.60  | 1.18    | 8.51    | 0.07  | 6.97   |
| UP RAIL TERMINAL          | 59,000                     | 912,769     | 0.27  | 0.53    | 3.82    | 0.03  | 3.13   |
| MARINE TERMINAL AREAS     | 2,023,250                  | 31,330,695  | 9.29  | 18.22   | 131.16  | 1.04  | 107.38 |
| ON-SITE TRUCK TRIPS       | 578,250                    | 1,075,545   | 3.54  | 13.21   | 17.02   | 0.76  | 5.37   |
| BAY AREA TRUCK TRIPS      | 2,704,250                  | 43,559,834  | 87.55   | 502.08  | 392.21  | 30.73 | 217.32 |
| LONG DISTANCE TRUCK TRIPS | 1,108,000                  | 53,668,750  | 100.76  | 641.08  | 450.14  | 37.86 | 267.76 |
|                           |                            |             |   |         |         |       |        |
| Autos                     | 2,709,750                  | 41,962,348  | 12.4  | 24.4    | 175.7   | 1.4   | 143.8  |
| Trucks                    | 4,390,500                  | 98,304,129  | 191.8   | 1,156.4 | 859.4   | 69.4  | 490.4  |
|                           |                            |             |   |         |         |       |        |
| Total                     | 7,100,250                  | 140,266,477 | 204.3   | 1,180.8 | 1,035.0 | 70.7  | 634.3  |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

Annual emission estimates assume 250 working days per year.

Annual carbon monoxide emission estimates assume 8 months of summer emission rates and 4 months of winter emission rates.

Sulfur oxide emissions assume emission rates of 0.03 grams/vmt for passenger vehicles (Bay Area Air Quality Management District, 1996) and 0.64 grams/vmt for heavy trucks (assuming 0.05% sulfur content for diesel fuel).

TABLE N-35. TRIP RATE CALCULATIONS WITH INTERNAL TRIP ADJUSTMENTS, ALTERNATIVE C

| Land Use or<br>Trip Generation<br>Category | Trip Estimate Basis | Base Trip<br>Generation<br>Rate | Vehicle<br>Generation<br>Rate | P/A Trip Rate Splits |             | Base Trip<br>Volume | % Productions<br>W Internal<br>Destinations | Number of<br>Internal Trip<br>Productions | % Attractions<br>W Internal<br>Origins | Number of<br>Internal Trip<br>Attractions | Internal/<br>External<br>Trips | Net<br>Trips<br>Generated | Adjusted<br>Trip Rate | Trip Rate<br>Adjustment<br>Factor |
|--|---------------------|---------------------------------|-------------------------------|----------------------|-------------|---------------------|---|---|--|---|--------------------------------|---------------------------|-----------------------|-----------------------------------|
|  |                     |                                 |                               | Productions          | Attractions |                     |   |   |  |   |                                |                           |                       |                                   |
| FISCO AREAS 1, 2, & 3                      | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%  | 0   | 0%                                     | 0   | 0                              | 0                         | 0.0                   | 0.0%                              |
| FISCO AREAS 4 & 5                          | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%  | 0   | 0%                                     | 0   | 0                              | 0                         | 0.0                   | 0.0%                              |
| JIT AREA                                   | 208 EMPLOYEES       | 3.50                            | 0.6                           | 10%                  | 90%         | 728                 | 0%  | 0   | 0%                                     | 0   | 728                            | 728                       | 3.5                   | 0.0%                              |
| SPRR TERMINAL                              | 210 EMPLOYEES       | 3.50                            | 0.6                           | 10%                  | 90%         | 735                 | 0%  | 0   | 0%                                     | 0   | 735                            | 735                       | 3.5                   | 0.0%                              |
| UP RAIL TERMINAL                           | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%  | 0   | 0%                                     | 0   | 0                              | 0                         | 0.0                   | 0.0%                              |
| MARINE TERMINAL AREAS                      | 2,970 EMPLOYEES     | 3.50                            | 0.6                           | 10%                  | 90%         | 10,395              | 0%  | 0   | 0%                                     | 0   | 10,395                         | 10,395                    | 3.5                   | 0.0%                              |
| ON-SITE TRUCK TRIPS                        | 759 ACRES           | 8.82                            | 0.0                           | 50%                  | 50%         | 6,694               | 0%  | 0   | 0%                                     | 0   | 6,694                          | 6,694                     | 8.8                   | 0.0%                              |
| BAY AREA TRUCK TRIPS                       | 759 ACRES           | 14.25                           | 0.0                           | 50%                  | 50%         | 10,819              | 0%  | 0   | 0%                                     | 0   | 10,819                         | 10,819                    | 14.3                  | 0.0%                              |
| LONG DISTANCE TRUCK TRIPS                  | 759 ACRES           | 5.84                            | 0.0                           | 50%                  | 50%         | 4,433               | 0%  | 0   | 0%                                     | 0   | 4,433                          | 4,433                     | 5.8                   | 0.0%                              |
|  |                     |                                 |                               |                      |             | -----               |   | -----                                     |  | -----                                     | -----                          | -----                     |                       | -----                             |
| TOTALS                                     |                     |                                 |                               |                      |             | 33,804              |   | 0   |  | 0   | 33,804                         | 33,804                    |                       | 0.0%                              |

Notes: Employment estimates by subarea taken from traffic modeling analyses performed by Dowling & Associates.

Average daily employee trip rates are based on ITE trip generation manual rates for light industrial uses (Institute of Transportation Engineers, 1991).

Average daily truck trip rates are back calculated from peak week truck trip estimates provided by Jordan Woodman Dobson; average daily truck trips are estimated to be 80% of peak week trips for marine terminals and 84% of peak week trips for rail terminals.

Bay Area truck trips represent 70.98% of the off-site truck trips; 29.02% of off-site truck trips are to or from locations outside the Bay Area.

The vehicle generation rate is used in the emissions analysis to compute diurnal and resting loss emissions from parked vehicles.

Production/attraction splits reflect the origin of a round trip.

Production/attraction split values and internal origin/destination percentages must balance internal productions with internal attractions.

Internal trip production/attraction balancing is not required by the trip generation approach used for this alternative.

Net trips generated = internal/external trips + 50% of internal productions + 50% of internal attractions.



TABLE N-36. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE C

| Land Use              | Trip Estimate Basis | Trip Purpose | Percent      | Net        | TCM            | Adjusted      | Adjusted  | Overall           | Mean Trip          | Percent of Travel Time by Speed (mph) |       |       |       |       |
|-----------------------|---------------------|--------------|--------------|------------|----------------|---------------|-----------|-------------------|--------------------|---------------------------------------|-------|-------|-------|-------|
|                       |                     |              | of Net Trips | Trip Rates | Program Effect | Net Trip Rate | Net Trips | TCM Effectiveness | Duration (Minutes) | 15                                    | 25    | 35    | 45    | 55    |
| FISCO AREAS 1, 2, & 3 | 0 EMPLOYEES         | H-W          | 40.0%        | 0.0        | 0%             | 0.0           | 0         |                   | 24.75              | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 12.50              | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 14.73              | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%        | 0.0        | 0%             | 0.0           | 0         |                   | 21.70              | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 15.93              | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| FISCO AREAS 4 & 5     | 0 EMPLOYEES         | H-W          | 40.0%        | 0.0        | 0%             | 0.0           | 0         |                   | 24.75              | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 12.50              | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 14.73              | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%        | 0.0        | 0%             | 0.0           | 0         |                   | 21.70              | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 15.93              | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| JIT AREA              | 208 EMPLOYEES       | H-W          | 40.0%        | 1.4        | 0%             | 1.4           | 291       |                   | 24.75              | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 12.50              | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%         | 0.2        | 0%             | 0.2           | 36        |                   | 14.73              | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%        | 1.8        | 0%             | 1.8           | 364       |                   | 21.70              | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%         | 0.2        | 0%             | 0.2           | 36        |                   | 15.93              | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| SPRR TERMINAL         | 210 EMPLOYEES       | H-W          | 40.0%        | 1.4        | 0%             | 1.4           | 294       |                   | 24.75              | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 12.50              | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%         | 0.2        | 0%             | 0.2           | 37        |                   | 14.73              | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%        | 1.8        | 0%             | 1.8           | 368       |                   | 21.70              | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%         | 0.2        | 0%             | 0.2           | 37        |                   | 15.93              | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| UP RAIL TERMINAL      | 0 EMPLOYEES         | H-W          | 40.0%        | 0.0        | 0%             | 0.0           | 0         |                   | 24.75              | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 12.50              | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 14.73              | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%        | 0.0        | 0%             | 0.0           | 0         |                   | 21.70              | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 15.93              | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |

TABLE N-36. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE C

| Land Use                  | Trip Estimate Basis | Trip Purpose | Percent      | Net        | TCM            | Adjusted      | Adjusted  | Overall           | Mean Trip Duration (Minutes) | Percent of Travel Time by Speed (mph) |       |       |       |       |
|---------------------------|---------------------|--------------|--------------|------------|----------------|---------------|-----------|-------------------|------------------------------|---------------------------------------|-------|-------|-------|-------|
|                           |                     |              | of Net Trips | Trip Rates | Program Effect | Net Trip Rate | Net Trips | TCM Effectiveness |                              | 15                                    | 25    | 35    | 45    | 55    |
| MARINE TERMINAL AREAS     | 2,970 EMPLOYEES     | H-W          | 40.0%        | 1.4        | 0%             | 1.4           | 4,158     |                   | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                           |                     | H-S          | 0.0%         | 0.0        | 0%             | 0.0           | 0         |                   | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                           |                     | H-O          | 5.0%         | 0.2        | 0%             | 0.2           | 520       |                   | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                           |                     | O-W          | 50.0%        | 1.8        | 0%             | 1.8           | 5,198     |                   | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                           |                     | O-O          | 5.0%         | 0.2        | 0%             | 0.2           | 520       |                   | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| ON-SITE TRUCK TRIPS       | 759 ACRES           | O-O          | 100.0%       | 8.8        | 0%             | 8.8           | 6,694     |                   | 6.20                         | 75.0%                                 | 20.0% | 5.0%  | 0.0%  | 0.0%  |
| BAY AREA TRUCK TRIPS      | 759 ACRES           | O-O          | 100.0%       | 14.3       | 0%             | 14.3          | 10,819    |                   | 28.85                        | 15.0%                                 | 25.0% | 30.0% | 20.0% | 10.0% |
| LONG DISTANCE TRUCK TRIPS | 759 ACRES           | O-O          | 100.0%       | 5.8        | 0%             | 5.8           | 4,433     |                   | 77.50                        | 10.0%                                 | 20.0% | 25.0% | 25.0% | 20.0% |
|                           |                     |              |              |            |                |               | .....     |                   |                              |                                       |       |       |       |       |
| TOTALS                    |                     |              |              |            |                |               | 33,805    | 0.0%              |                              |                                       |       |       |       |       |

Notes: H-W = home-work trips

H-S = home-shopping trips

H-O = home-other trips

O-W = other-work trips

O-O = other-other trips

TCM = transportation control measures

Mean trip durations were derived from estimated travel time frequency distributions for home-work, home-shopping, home-other, other-work, and other-other trips, recognizing employee residency patterns plus travel times and distances between communities in the Bay Area.

Vehicle speed distributions were estimated from general road network features of the San Francisco Bay Area.

TABLE N-37. VEHICLE TRAVEL SUMMARY, ALTERNATIVE C

| LAND USE              | TRIP ESTIMATE BASIS | TRIP<br>PURPOSE | AVERAGE<br>DAILY<br>TRIPS | MEAN TRIP<br>DURATION<br>(MINUTES) | AVERAGE<br>DISTANCE<br>(MILES) | DAILY VMT<br>BY TRIP<br>PURPOSE | AVERAGE<br>TRAVEL<br>SPEED (MPH) |
|-----------------------|---------------------|-----------------|---------------------------|------------------------------------|--------------------------------|---------------------------------|----------------------------------|
| FISCO AREAS 1, 2, & 3 | 0 EMPLOYEES         | H-W             | 0                         | 24.8                               | 17.94                          | 0                               | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 0                         | 14.7                               | 8.59                           | 0                               | 35.0                             |
|                       |                     | O-W             | 0                         | 21.7                               | 14.83                          | 0                               | 41.0                             |
|                       |                     | O-O             | 0                         | 15.9                               | 9.29                           | 0                               | 35.0                             |
| FISCO AREAS 4 & 5     | 0 EMPLOYEES         | H-W             | 0                         | 24.8                               | 17.94                          | 0                               | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 0                         | 14.7                               | 8.59                           | 0                               | 35.0                             |
|                       |                     | O-W             | 0                         | 21.7                               | 14.83                          | 0                               | 41.0                             |
|                       |                     | O-O             | 0                         | 15.9                               | 9.29                           | 0                               | 35.0                             |
| JIT AREA              | 208 EMPLOYEES       | H-W             | 291                       | 24.8                               | 17.94                          | 5,222                           | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 36                        | 14.7                               | 8.59                           | 309                             | 35.0                             |
|                       |                     | O-W             | 364                       | 21.7                               | 14.83                          | 5,398                           | 41.0                             |
|                       |                     | O-O             | 36                        | 15.9                               | 9.29                           | 335                             | 35.0                             |
| SPRR TERMINAL         | 210 EMPLOYEES       | H-W             | 294                       | 24.8                               | 17.94                          | 5,275                           | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 37                        | 14.7                               | 8.59                           | 318                             | 35.0                             |
|                       |                     | O-W             | 366                       | 21.7                               | 14.83                          | 5,457                           | 41.0                             |
|                       |                     | O-O             | 37                        | 15.9                               | 9.29                           | 344                             | 35.0                             |
| UP RAIL TERMINAL      | 0 EMPLOYEES         | H-W             | 0                         | 24.8                               | 17.94                          | 0                               | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 0                         | 14.7                               | 8.59                           | 0                               | 35.0                             |
|                       |                     | O-W             | 0                         | 21.7                               | 14.83                          | 0                               | 41.0                             |
|                       |                     | O-O             | 0                         | 15.9                               | 9.29                           | 0                               | 35.0                             |

TABLE N-37. VEHICLE TRAVEL SUMMARY, ALTERNATIVE C

| LAND USE                  | TRIP ESTIMATE BASIS | TRIP<br>PURPOSE | AVERAGE<br>DAILY<br>TRIPS | MEAN TRIP<br>DURATION<br>(MINUTES) | AVERAGE<br>DISTANCE<br>(MILES) | DAILY VMT<br>BY TRIP<br>PURPOSE | AVERAGE<br>TRAVEL<br>SPEED (MPH) |
|---------------------------|---------------------|-----------------|---------------------------|------------------------------------|--------------------------------|---------------------------------|----------------------------------|
| MARINE TERMINAL AREAS     | 2,970 EMPLOYEES     | H-W             | 4,158                     | 24.8                               | 17.94                          | 74,610                          | 43.5                             |
|                           |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                           |                     | H-O             | 520                       | 14.7                               | 8.59                           | 4,468                           | 35.0                             |
|                           |                     | O-W             | 5,198                     | 21.7                               | 14.83                          | 77,078                          | 41.0                             |
|                           |                     | O-O             | 520                       | 15.9                               | 9.29                           | 4,832                           | 35.0                             |
| ON-SITE TRUCK TRIPS       | 759 ACRES           | O-O             | 6,694                     | 6.2                                | 1.86                           | 12,451                          | 18.0                             |
| BAY AREA TRUCK TRIPS      | 759 ACRES           | O-O             | 10,819                    | 28.9                               | 16.11                          | 174,272                         | 33.5                             |
| LONG DISTANCE TRUCK TRIPS | 759 ACRES           | O-O             | 4,433                     | 77.5                               | 48.44                          | 214,723                         | 37.5                             |
| .....                     |                     |                 |                           |                                    |                                |                                 |                                  |
| TOTALS:                   |                     | H-W             | 4,743                     | 24.8                               | 17.94                          | 85,107                          | 43.5                             |
|                           |                     | H-S             | 0                         | 0.0                                | 0.00                           | 0                               | 0.0                              |
|                           |                     | H-O             | 593                       | 14.8                               | 8.59                           | 5,095                           | 34.9                             |
|                           |                     | O-W             | 5,930                     | 21.7                               | 14.83                          | 87,932                          | 41.0                             |
|                           |                     | O-O             | 22,539                    | 31.4                               | 18.06                          | 406,956                         | 34.6                             |
|                           |                     |                 | -----                     | -----                              | -----                          | -----                           | -----                            |
|                           |                     |                 | 33,805                    | 28.4                               | 17.31                          | 585,091                         | 36.5                             |

Notes: H-W = home-work trips  
H-S = home-shopping trips  
H-O = home-other trips  
O-W = other-work trips  
O-O = other-other trips  
VMT = vehicle miles traveled



TABLE N-38. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE C

| Land Use              | Trip Estimate Basis | Trip Purpose | Average Distance (miles) | VMT by Category | Exhaust ROG Rate (gm/mile) | Exhaust NOx Rate (gm/mile) | Total PM10 Emission Rate (gm/mile) | Summer CO Rate (gm/mile) | Winter CO Rate (gm/mile) | ROG Emissions (lbs/day) | NOx Emissions (lbs/day) | PM10 Emissions (lbs/day) | Summer CO Emissions (lbs/day) | Winter CO Emissions (lbs/day) |
|-----------------------|---------------------|--------------|--------------------------|-----------------|----------------------------|----------------------------|------------------------------------|--------------------------|--------------------------|-------------------------|-------------------------|--------------------------|-------------------------------|-------------------------------|
| FISCO AREAS 1, 2, & 3 | 0 EMPLOYEES         | H-W          | 17.94                    | 0               | 0.26                       | 0.54                       | 3.11                               | 3.61                     | 4.68                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | H-S          | 7.40                     | 0               | 0.28                       | 0.55                       | 3.11                               | 3.86                     | 4.95                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | H-O          | 8.59                     | 0               | 0.29                       | 0.53                       | 3.11                               | 3.97                     | 5.13                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | O-W          | 14.83                    | 0               | 0.23                       | 0.52                       | 3.11                               | 3.34                     | 4.25                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | O-O          | 9.29                     | 0               | 0.21                       | 0.47                       | 3.11                               | 2.94                     | 3.61                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
| FISCO AREAS 4 & 5     | 0 EMPLOYEES         | H-W          | 17.94                    | 0               | 0.26                       | 0.54                       | 3.11                               | 3.61                     | 4.68                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | H-S          | 7.40                     | 0               | 0.28                       | 0.55                       | 3.11                               | 3.86                     | 4.95                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | H-O          | 8.59                     | 0               | 0.29                       | 0.53                       | 3.11                               | 3.97                     | 5.13                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | O-W          | 14.83                    | 0               | 0.23                       | 0.52                       | 3.11                               | 3.34                     | 4.25                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | O-O          | 9.29                     | 0               | 0.21                       | 0.47                       | 3.11                               | 2.94                     | 3.61                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
| JIT AREA              | 208 EMPLOYEES       | H-W          | 17.94                    | 5,222           | 0.26                       | 0.54                       | 3.11                               | 3.61                     | 4.68                     | 3.2                     | 6.2                     | 35.8                     | 41.5                          | 53.8                          |
|                       |                     | H-S          | 7.40                     | 0               | 0.28                       | 0.55                       | 3.11                               | 3.86                     | 4.95                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | H-O          | 8.59                     | 309             | 0.29                       | 0.53                       | 3.11                               | 3.97                     | 5.13                     | 0.2                     | 0.4                     | 2.1                      | 2.7                           | 3.5                           |
|                       |                     | O-W          | 14.83                    | 5,398           | 0.23                       | 0.52                       | 3.11                               | 3.34                     | 4.25                     | 3.1                     | 6.2                     | 37.0                     | 39.7                          | 50.6                          |
|                       |                     | O-O          | 9.29                     | 335             | 0.21                       | 0.47                       | 3.11                               | 2.94                     | 3.61                     | 0.2                     | 0.4                     | 2.3                      | 2.2                           | 2.7                           |
| SPRR TERMINAL         | 210 EMPLOYEES       | H-W          | 17.94                    | 5,275           | 0.26                       | 0.54                       | 3.11                               | 3.61                     | 4.68                     | 3.2                     | 6.2                     | 36.2                     | 42.0                          | 54.4                          |
|                       |                     | H-S          | 7.40                     | 0               | 0.28                       | 0.55                       | 3.11                               | 3.86                     | 4.95                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | H-O          | 8.59                     | 318             | 0.29                       | 0.53                       | 3.11                               | 3.97                     | 5.13                     | 0.2                     | 0.4                     | 2.2                      | 2.8                           | 3.6                           |
|                       |                     | O-W          | 14.83                    | 5,457           | 0.23                       | 0.52                       | 3.11                               | 3.34                     | 4.25                     | 3.1                     | 6.3                     | 37.4                     | 40.2                          | 51.1                          |
|                       |                     | O-O          | 9.29                     | 344             | 0.21                       | 0.47                       | 3.11                               | 2.94                     | 3.61                     | 0.2                     | 0.4                     | 2.4                      | 2.2                           | 2.7                           |
| UP RAIL TERMINAL      | 0 EMPLOYEES         | H-W          | 17.94                    | 0               | 0.26                       | 0.54                       | 3.11                               | 3.61                     | 4.68                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | H-S          | 7.40                     | 0               | 0.28                       | 0.55                       | 3.11                               | 3.86                     | 4.95                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | H-O          | 8.59                     | 0               | 0.29                       | 0.53                       | 3.11                               | 3.97                     | 5.13                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | O-W          | 14.83                    | 0               | 0.23                       | 0.52                       | 3.11                               | 3.34                     | 4.25                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                       |                     | O-O          | 9.29                     | 0               | 0.21                       | 0.47                       | 3.11                               | 2.94                     | 3.61                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |

TABLE N-38. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE C

| Land Use                  | Trip Estimate Basis | Trip Purpose | Average          | VMT by Category | Exhaust            | Exhaust            | Total PM10              | Summer            | Winter            | ROG                 | NOx                 | PM10                | Summer CO           | Winter CO           |
|---------------------------|---------------------|--------------|------------------|-----------------|--------------------|--------------------|-------------------------|-------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                           |                     |              | Distance (miles) |                 | ROG Rate (gm/mile) | NOx Rate (gm/mile) | Emission Rate (gm/mile) | CO Rate (gm/mile) | CO Rate (gm/mile) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) |
| MARINE TERMINAL AREAS     | 2,970 EMPLOYEES     | H-W          | 17.94            | 74,610          | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 45.6                | 88.1                | 511.4               | 593.7               | 769.3               |
|                           |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                           |                     | H-O          | 8.59             | 4,468           | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 3.3                 | 5.2                 | 30.6                | 39.1                | 50.6                |
|                           |                     | O-W          | 14.83            | 77,078          | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 43.9                | 88.9                | 528.3               | 567.6               | 722.0               |
|                           |                     | O-O          | 9.29             | 4,832           | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 2.6                 | 5.1                 | 33.1                | 31.3                | 38.5                |
| ON-SITE TRUCK TRIPS       | 759 ACRES           | O-O          | 1.86             | 12,451          | 2.97               | 11.14              | 4.53                    | 14.32             | 14.42             | 82.0                | 305.9               | 124.2               | 393.1               | 395.7               |
| BAY AREA TRUCK TRIPS      | 759 ACRES           | O-O          | 16.11            | 174,272         | 1.82               | 10.46              | 4.53                    | 8.15              | 8.21              | 700.5               | 4,017.4             | 1,738.9             | 3,131.1             | 3,152.7             |
| LONG DISTANCE TRUCK TRIPS | 759 ACRES           | O-O          | 48.44            | 214,723         | 1.67               | 10.84              | 4.53                    | 7.59              | 7.64              | 806.3               | 5,129.8             | 2,142.5             | 3,593.5             | 3,618.9             |
| TOTALS                    |                     |              | 17.31            | 585,091         |                    |                    |                         |                   |                   | 1,697.7             | 9,666.7             | 5,264.5             | 8,522.6             | 8,970.2             |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

CO = carbon monoxide

Average trip distances are calculated from mean trip durations and the distribution of travel time by speed categories.

Different travel patterns and vehicle type mixes are assumed for employee trips and truck trips.

Average exhaust emission rates based on VMT-weighting of emission rates for the five speed categories, with weighting factors calculated in a manner consistent with the travel time and speed assumptions used to compute average trip lengths.

TABLE N-39. SUMMARY OF TRAFFIC-RELATED OZONE PRECURSOR EMISSIONS, ALTERNATIVE C AND EMISSION RATES FOR 2010

| Land Use                  | Amount of Development | Net Daily Vehicle Trip Generation |                |             | Daily VMT Estimate | Average Summer Day Traffic-Related Ozone Precursor Emissions (pounds per day) | Average Daily Exhaust Plus Entrained PM10 Emissions (pounds per day) | Average Daily Traffic-Related Carbon Monoxide Emissions (pounds per day) |         |
|---------------------------|-----------------------|-----------------------------------|----------------|-------------|--------------------|---|--|--|---------|
|                           |                       | Internal Trips                    | External Trips | Total Trips |                    | ROG   | NOx  | Summer   | Winter  |
| FISCO AREAS 1, 2, & 3     | 0 EMPLOYEES           | 0                                 | 0              | 0           | 0                  | 0.0   | 0.0  | 0.0  | 0.0     |
| FISCO AREAS 4 & 5         | 0 EMPLOYEES           | 0                                 | 0              | 0           | 0                  | 0.0   | 0.0  | 0.0  | 0.0     |
| JIT AREA                  | 208 EMPLOYEES         | 0                                 | 727            | 727         | 11,263             | 6.7   | 13.1   | 77.2   | 110.6   |
| SPRR TERMINAL             | 210 EMPLOYEES         | 0                                 | 736            | 736         | 11,394             | 6.8   | 13.2   | 78.1   | 111.8   |
| UP RAIL TERMINAL          | 0 EMPLOYEES           | 0                                 | 0              | 0           | 0                  | 0.0   | 0.0  | 0.0  | 0.0     |
| MARINE TERMINAL AREAS     | 2,970 EMPLOYEES       | 0                                 | 10,396         | 10,396      | 160,988            | 95.5  | 187.2  | 1,103.5  | 1,580.4 |
| ON-SITE TRUCK TRIPS       | 759 ACRES             | 6,694                             | 0              | 6,694       | 12,451             | 82.0  | 305.9  | 124.2  | 395.7   |
| BAY AREA TRUCK TRIPS      | 759 ACRES             | 0                                 | 10,819         | 10,819      | 174,272            | 700.5   | 4,017.4  | 1,738.9  | 3,152.7 |
| LONG DISTANCE TRUCK TRIPS | 759 ACRES             | 0                                 | 4,433          | 4,433       | 214,723            | 806.3   | 5,129.8  | 2,142.5  | 3,618.9 |
| Auto Trips:               |                       | 0                                 | 11,859         | 11,859      | 183,645            | 108.9   | 213.6  | 1,258.8  | 1,404.9 |
| Truck Trips               |                       | 6,694                             | 15,252         | 21,946      | 401,446            | 1,588.8   | 9,453.1  | 4,005.7  | 7,167.4 |
| Total                     |                       | 6,694                             | 27,111         | 33,805      | 585,091            | 1,697.7   | 9,666.7  | 5,264.5  | 8,970.2 |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

Different travel patterns and vehicle type mixes are assumed for employee trips and truck trips.

TABLE N-40. ESTIMATED ANNUAL VEHICLE TRAFFIC EMISSIONS, ALTERNATIVE C

| Land Use                  | Annual<br>Vehicle<br>Trips | Annual VMT  | Estimated Annual Vehicle Emissions<br>(Tons Per Year) For Alternative C |         |         |       |        |
|---------------------------|----------------------------|-------------|---|---------|---------|-------|--------|
|                           |                            |             | ROG   | NOx     | CO      | SOx   | PM10   |
| FISCO AREAS 1, 2, & 3     | 0                          | 0           | 0.00  | 0.00    | 0.00    | 0.00  | 0.00   |
| FISCO AREAS 4 & 5         | 0                          | 0           | 0.00  | 0.00    | 0.00    | 0.00  | 0.00   |
| JIT AREA                  | 181,750                    | 2,815,751   | 0.83  | 1.64    | 11.79   | 0.09  | 9.65   |
| SPRR TERMINAL             | 184,000                    | 2,848,509   | 0.84  | 1.66    | 11.92   | 0.09  | 9.76   |
| UP RAIL TERMINAL          | 0                          | 0           | 0.00  | 0.00    | 0.00    | 0.00  | 0.00   |
| MARINE TERMINAL AREAS     | 2,599,000                  | 40,246,997  | 11.93   | 23.40   | 168.48  | 1.33  | 137.94 |
| ON-SITE TRUCK TRIPS       | 1,673,500                  | 3,112,710   | 10.25   | 38.24   | 49.25   | 2.20  | 15.53  |
| BAY AREA TRUCK TRIPS      | 2,704,750                  | 43,567,888  | 87.56   | 502.17  | 392.29  | 30.74 | 217.36 |
| LONG DISTANCE TRUCK TRIPS | 1,108,250                  | 53,680,859  | 100.78  | 641.23  | 450.25  | 37.87 | 267.82 |
|                           | .....                      | .....       | .....   | .....   | .....   | ..... | .....  |
| Autos                     | 2,964,750                  | 45,911,257  | 13.6  | 26.7    | 192.2   | 1.5   | 157.3  |
| Trucks                    | 5,486,500                  | 100,361,457 | 198.6   | 1,181.6 | 891.8   | 70.8  | 500.7  |
|                           | .....                      | .....       | .....   | .....   | .....   | ..... | .....  |
| Total                     | 8,451,250                  | 146,272,714 | 212.2   | 1,208.3 | 1,084.0 | 72.3  | 658.1  |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

Annual emission estimates assume 250 working days per year.

Annual carbon monoxide emission estimates assume 8 months of summer emission rates and 4 months of winter emission rates.

Sulfur oxide emissions assume emission rates of 0.03 grams/vmt for passenger vehicles (Bay Area Air Quality Management District, 1996) and 0.64 grams/vmt for heavy trucks (assuming 0.05% sulfur content for diesel fuel).



TABLE N-41. TRIP RATE CALCULATIONS WITH INTERNAL TRIP ADJUSTMENTS, ALTERNATIVE D

| Land Use or<br>Trip Generation<br>Category | Trip Estimate Basis | Base Trip<br>Generation<br>Rate | Vehicle<br>Generation<br>Rate | P/A Trip Rate Splits |             | Base Trip<br>Volume | % Productions              |  | Number of<br>Internal Trip<br>Productions | % Attractions         |  | Number of<br>Internal Trip<br>Attractions | Internal/<br>External<br>Trips | Net<br>Trips<br>Generated | Adjusted<br>Trip Rate | Trip Rate<br>Adjustment<br>Factor |
|--|---------------------|---------------------------------|-------------------------------|----------------------|-------------|---------------------|----------------------------|--|---|-----------------------|--|---|--------------------------------|---------------------------|-----------------------|-----------------------------------|
|  |                     |                                 |                               | Productions          | Attractions |                     | W Internal<br>Destinations |  |   | W Internal<br>Origins |  |   |                                |                           |                       |                                   |
| FISCO AREAS 1, 2, & 3                      | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%                         |  | 0   | 0%                    |  | 0   | 0                              | 0                         | 0.0                   | 0.0%                              |
| FISCO AREAS 4 & 5                          | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%                         |  | 0   | 0%                    |  | 0   | 0                              | 0                         | 0.0                   | 0.0%                              |
| JIT AREA                                   | 343 EMPLOYEES       | 3.50                            | 0.6                           | 10%                  | 90%         | 1,201               | 0%                         |  | 0   | 0%                    |  | 0   | 1,201                          | 1,201                     | 3.5                   | 0.0%                              |
| SPRR TERMINAL                              | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%                         |  | 0   | 0%                    |  | 0   | 0                              | 0                         | 0.0                   | 0.0%                              |
| UP RAIL TERMINAL                           | 0 EMPLOYEES         | 0.00                            | 0.0                           | 10%                  | 90%         | 0                   | 0%                         |  | 0   | 0%                    |  | 0   | 0                              | 0                         | 0.0                   | 0.0%                              |
| MARINE TERMINAL AREAS                      | 2,923 EMPLOYEES     | 3.50                            | 0.6                           | 10%                  | 90%         | 10,231              | 0%                         |  | 0   | 0%                    |  | 0   | 10,231                         | 10,231                    | 3.5                   | 0.0%                              |
| ON-SITE TRUCK TRIPS                        | 747 ACRES           | 8.56                            | 0.0                           | 50%                  | 50%         | 6,394               | 0%                         |  | 0   | 0%                    |  | 0   | 6,394                          | 6,394                     | 8.6                   | 0.0%                              |
| BAY AREA TRUCK TRIPS                       | 747 ACRES           | 14.47                           | 0.0                           | 50%                  | 50%         | 10,812              | 0%                         |  | 0   | 0%                    |  | 0   | 10,812                         | 10,812                    | 14.5                  | 0.0%                              |
| LONG DISTANCE TRUCK TRIPS                  | 747 ACRES           | 5.93                            | 0.0                           | 50%                  | 50%         | 4,430               | 0%                         |  | 0   | 0%                    |  | 0   | 4,430                          | 4,430                     | 5.9                   | 0.0%                              |
|  |                     |                                 |                               |                      |             | -----               |                            |  | -----                                     |                       |  | -----                                     | -----                          | -----                     |                       | -----                             |
| TOTALS                                     |                     |                                 |                               |                      |             | 33,068              |                            |  | 0   |                       |  | 0   | 33,068                         | 33,068                    |                       | 0.0%                              |

Notes: Employment estimates by subarea taken from traffic modeling analyses performed by Dowling & Associates.

Average daily employee trip rates are based on ITE trip generation manual rates for light industrial uses (Institute of Transportation Engineers, 1991).

Average daily truck trip rates are back calculated from peak week truck trip estimates provided by Jordan Woodman Dobson; average daily truck trips are estimated to be 80% of peak week trips for marine terminals and 84% of peak week trips for rail terminals.

Bay Area truck trips represent 70.98% of the off-site truck trips; 29.02% of off-site truck trips are to or from locations outside the Bay Area.

The vehicle generation rate is used in the emissions analysis to compute diurnal and resting loss emissions from parked vehicles.

Production/attraction splits reflect the origin of a round trip.

Production/attraction split values and internal origin/destination percentages must balance internal productions with internal attractions.

Internal trip production/attraction balancing is not required by the trip generation approach used for this alternative.

Net trips generated = internal/external trips + 50% of internal productions + 50% of internal attractions.

TABLE N-42. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE D

| Land Use              | Trip Estimate Basis | Trip Purpose | Percent of Net Trips | Net Trip Rates | TCM Program Effect | Adjusted Net Trip Rate | Adjusted Net Trips | Overall TCM Effectiveness | Mean Trip Duration (Minutes) | Percent of Travel Time by Speed (mph) |       |       |       |       |
|-----------------------|---------------------|--------------|----------------------|----------------|--------------------|------------------------|--------------------|---------------------------|------------------------------|---------------------------------------|-------|-------|-------|-------|
|                       |                     |              |                      |                |                    |                        |                    |                           |                              | 15                                    | 25    | 35    | 45    | 55    |
| FISCO AREAS 1, 2, & 3 | 0 EMPLOYEES         | H-W          | 40.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| FISCO AREAS 4 & 5     | 0 EMPLOYEES         | H-W          | 40.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| JIT AREA              | 343 EMPLOYEES       | H-W          | 40.0%                | 1.4            | 0%                 | 1.4                    | 480                |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 60                 |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 1.8            | 0%                 | 1.8                    | 601                |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 60                 |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| SPRR TERMINAL         | 0 EMPLOYEES         | H-W          | 40.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| UP RAIL TERMINAL      | 0 EMPLOYEES         | H-W          | 40.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                       |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                       |                     | H-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                       |                     | O-W          | 50.0%                | 0.0            | 0%                 | 0.0                    | 0                  |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                       |                     | O-O          | 5.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |

TABLE N-42. TRIP PURPOSE, TCM EFFECTS AND TRAVEL TIME DISAGGREGATIONS, ALTERNATIVE D

| Land Use                  | Trip Estimate Basis | Trip Purpose | Percent of Net Trips | Net Trip Rates | TCM Program Effect | Adjusted Net Trip Rate | Adjusted Net Trips | Overall TCM Effectiveness | Mean Trip Duration (Minutes) | Percent of Travel Time by Speed (mph) |       |       |       |       |
|---------------------------|---------------------|--------------|----------------------|----------------|--------------------|------------------------|--------------------|---------------------------|------------------------------|---------------------------------------|-------|-------|-------|-------|
|                           |                     |              |                      |                |                    |                        |                    |                           |                              | 15                                    | 25    | 35    | 45    | 55    |
| MARINE TERMINAL AREAS     | 2,923 EMPLOYEES     | H-W          | 40.0%                | 1.4            | 0%                 | 1.4                    | 4,092              |                           | 24.75                        | 5.0%                                  | 10.0% | 20.0% | 25.0% | 40.0% |
|                           |                     | H-S          | 0.0%                 | 0.0            | 0%                 | 0.0                    | 0                  |                           | 12.50                        | 10.0%                                 | 30.0% | 25.0% | 15.0% | 20.0% |
|                           |                     | H-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 512                |                           | 14.73                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
|                           |                     | O-W          | 50.0%                | 1.8            | 0%                 | 1.8                    | 5,116              |                           | 21.70                        | 5.0%                                  | 20.0% | 20.0% | 20.0% | 35.0% |
|                           |                     | O-O          | 5.0%                 | 0.2            | 0%                 | 0.2                    | 512                |                           | 15.93                        | 10.0%                                 | 25.0% | 35.0% | 15.0% | 15.0% |
| ON-SITE TRUCK TRIPS       | 747 ACRES           | O-O          | 100.0%               | 8.6            | 0%                 | 8.6                    | 6,394              |                           | 6.20                         | 75.0%                                 | 20.0% | 5.0%  | 0.0%  | 0.0%  |
| BAY AREA TRUCK TRIPS      | 747 ACRES           | O-O          | 100.0%               | 14.5           | 0%                 | 14.5                   | 10,812             |                           | 28.85                        | 15.0%                                 | 25.0% | 30.0% | 20.0% | 10.0% |
| LONG DISTANCE TRUCK TRIPS | 747 ACRES           | O-O          | 100.0%               | 5.9            | 0%                 | 5.9                    | 4,430              |                           | 77.50                        | 10.0%                                 | 20.0% | 25.0% | 25.0% | 20.0% |
| TOTALS                    |                     |              |                      |                |                    |                        | 33,069             | 0.0%                      |                              |                                       |       |       |       |       |

Notes: H-W = home-work trips

H-S = home-shopping trips

H-O = home-other trips

O-W = other-work trips

O-O = other-other trips

TCM = transportation control measures

Mean trip durations were derived from estimated travel time frequency distributions for home-work, home-shopping, home-other, other-work, and other-other trips, recognizing employee residency patterns plus travel times and distances between communities in the Bay Area.

Vehicle speed distributions were estimated from general road network features of the San Francisco Bay Area.

TABLE N-43. VEHICLE TRAVEL SUMMARY, ALTERNATIVE D

| LAND USE              | TRIP ESTIMATE BASIS | TRIP<br>PURPOSE | AVERAGE<br>DAILY<br>TRIPS | MEAN TRIP<br>DURATION<br>(MINUTES) | AVERAGE<br>DISTANCE<br>(MILES) | DAILY VMT<br>BY TRIP<br>PURPOSE | AVERAGE<br>TRAVEL<br>SPEED (MPH) |
|-----------------------|---------------------|-----------------|---------------------------|------------------------------------|--------------------------------|---------------------------------|----------------------------------|
| FISCO AREAS 1, 2, & 3 | 0 EMPLOYEES         | H-W             | 0                         | 24.8                               | 17.94                          | 0                               | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 0                         | 14.7                               | 8.59                           | 0                               | 35.0                             |
|                       |                     | O-W             | 0                         | 21.7                               | 14.83                          | 0                               | 41.0                             |
|                       |                     | O-O             | 0                         | 15.9                               | 9.29                           | 0                               | 35.0                             |
| FISCO AREAS 4 & 5     | 0 EMPLOYEES         | H-W             | 0                         | 24.8                               | 17.94                          | 0                               | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 0                         | 14.7                               | 8.59                           | 0                               | 35.0                             |
|                       |                     | O-W             | 0                         | 21.7                               | 14.83                          | 0                               | 41.0                             |
|                       |                     | O-O             | 0                         | 15.9                               | 9.29                           | 0                               | 35.0                             |
| JIT AREA              | 343 EMPLOYEES       | H-W             | 480                       | 24.8                               | 17.94                          | 8,613                           | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 60                        | 14.7                               | 8.59                           | 516                             | 35.0                             |
|                       |                     | O-W             | 601                       | 21.7                               | 14.83                          | 8,912                           | 41.0                             |
|                       |                     | O-O             | 60                        | 15.9                               | 9.29                           | 558                             | 35.0                             |
| SPRR TERMINAL         | 0 EMPLOYEES         | H-W             | 0                         | 24.8                               | 17.94                          | 0                               | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 0                         | 14.7                               | 8.59                           | 0                               | 35.0                             |
|                       |                     | O-W             | 0                         | 21.7                               | 14.83                          | 0                               | 41.0                             |
|                       |                     | O-O             | 0                         | 15.9                               | 9.29                           | 0                               | 35.0                             |
| UP RAIL TERMINAL      | 0 EMPLOYEES         | H-W             | 0                         | 24.8                               | 17.94                          | 0                               | 43.5                             |
|                       |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                       |                     | H-O             | 0                         | 14.7                               | 8.59                           | 0                               | 35.0                             |
|                       |                     | O-W             | 0                         | 21.7                               | 14.83                          | 0                               | 41.0                             |
|                       |                     | O-O             | 0                         | 15.9                               | 9.29                           | 0                               | 35.0                             |



TABLE N-43. VEHICLE TRAVEL SUMMARY, ALTERNATIVE D

| LAND USE                  | TRIP ESTIMATE BASIS | TRIP<br>PURPOSE | AVERAGE<br>DAILY<br>TRIPS | MEAN TRIP<br>DURATION<br>(MINUTES) | AVERAGE<br>DISTANCE<br>(MILES) | DAILY VMT<br>BY TRIP<br>PURPOSE | AVERAGE<br>TRAVEL<br>SPEED (MPH) |
|---------------------------|---------------------|-----------------|---------------------------|------------------------------------|--------------------------------|---------------------------------|----------------------------------|
| MARINE TERMINAL AREAS     | 2,923 EMPLOYEES     | H-W             | 4,092                     | 24.8                               | 17.94                          | 73,426                          | 43.5                             |
|                           |                     | H-S             | 0                         | 12.5                               | 7.40                           | 0                               | 35.5                             |
|                           |                     | H-O             | 512                       | 14.7                               | 8.59                           | 4,399                           | 35.0                             |
|                           |                     | O-W             | 5,116                     | 21.7                               | 14.83                          | 75,862                          | 41.0                             |
|                           |                     | O-O             | 512                       | 15.9                               | 9.29                           | 4,758                           | 35.0                             |
| ON-SITE TRUCK TRIPS       | 747 ACRES           | O-O             | 6,394                     | 6.2                                | 1.86                           | 11,893                          | 18.0                             |
| BAY AREA TRUCK TRIPS      | 747 ACRES           | O-O             | 10,812                    | 28.9                               | 16.11                          | 174,159                         | 33.5                             |
| LONG DISTANCE TRUCK TRIPS | 747 ACRES           | O-O             | 4,430                     | 77.5                               | 48.44                          | 214,578                         | 37.5                             |
| .....                     |                     |                 |                           |                                    |                                |                                 |                                  |
| TOTALS:                   |                     | H-W             | 4,572                     | 24.8                               | 17.94                          | 82,039                          | 43.5                             |
|                           |                     | H-S             | 0                         | 0.0                                | 0.00                           | 0                               | 0.0                              |
|                           |                     | H-O             | 572                       | 14.8                               | 8.59                           | 4,915                           | 34.9                             |
|                           |                     | O-W             | 5,717                     | 21.7                               | 14.83                          | 84,774                          | 41.0                             |
|                           |                     | O-O             | 22,208                    | 31.7                               | 18.28                          | 405,945                         | 34.6                             |
|                           |                     |                 | -----                     | -----                              | -----                          | -----                           | -----                            |
|                           |                     |                 | 33,069                    | 28.7                               | 17.47                          | 577,672                         | 36.5                             |

Notes: H-W = home-work trips  
H-S = home-shopping trips  
H-O = home-other trips  
O-W = other-work trips  
O-O = other-other trips  
VMT = vehicle miles traveled

TABLE N-44. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE D

| Land Use              | Trip Estimate Basis | Trip Purpose | Average          | VMT by Category | Exhaust            | Exhaust            | Total PM10              | Summer            | Winter            | ROG                 | NOx                 | PM10                | Summer CO           | Winter CO           |
|-----------------------|---------------------|--------------|------------------|-----------------|--------------------|--------------------|-------------------------|-------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                       |                     |              | Distance (miles) |                 | ROG Rate (gm/mile) | NOx Rate (gm/mile) | Emission Rate (gm/mile) | CO Rate (gm/mile) | CO Rate (gm/mile) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) | Emissions (lbs/day) |
| FISCO AREAS 1, 2, & 3 | 0 EMPLOYEES         | H-W          | 17.94            | 0               | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 0               | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-W          | 14.83            | 0               | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-O          | 9.29             | 0               | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
| FISCO AREAS 4 & 5     | 0 EMPLOYEES         | H-W          | 17.94            | 0               | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 0               | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-W          | 14.83            | 0               | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-O          | 9.29             | 0               | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
| JIT AREA              | 343 EMPLOYEES       | H-W          | 17.94            | 8,613           | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 5.3                 | 10.2                | 59.0                | 68.5                | 88.8                |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 516             | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.4                 | 0.6                 | 3.5                 | 4.5                 | 5.8                 |
|                       |                     | O-W          | 14.83            | 8,912           | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 5.1                 | 10.3                | 61.1                | 65.6                | 83.5                |
|                       |                     | O-O          | 9.29             | 558             | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.3                 | 0.6                 | 3.8                 | 3.6                 | 4.4                 |
| SPRR TERMINAL         | 0 EMPLOYEES         | H-W          | 17.94            | 0               | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 0               | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-W          | 14.83            | 0               | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-O          | 9.29             | 0               | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
| UP RAIL TERMINAL      | 0 EMPLOYEES         | H-W          | 17.94            | 0               | 0.26               | 0.54               | 3.11                    | 3.61              | 4.68              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-S          | 7.40             | 0               | 0.28               | 0.55               | 3.11                    | 3.86              | 4.95              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | H-O          | 8.59             | 0               | 0.29               | 0.53               | 3.11                    | 3.97              | 5.13              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-W          | 14.83            | 0               | 0.23               | 0.52               | 3.11                    | 3.34              | 4.25              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |
|                       |                     | O-O          | 9.29             | 0               | 0.21               | 0.47               | 3.11                    | 2.94              | 3.61              | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |

TABLE N-44. SUMMARY OF VMT AND TRAFFIC-RELATED VEHICLE EMISSIONS, ALTERNATIVE D

| Land Use                  | Trip Estimate Basis | Trip Purpose | Average Distance (miles) | VMT by Category | Exhaust ROG Rate (gm/mile) | Exhaust NOx Rate (gm/mile) | Total PM10 Emission Rate (gm/mile) | Summer CO Rate (gm/mile) | Winter CO Rate (gm/mile) | ROG Emissions (lbs/day) | NOx Emissions (lbs/day) | PM10 Emissions (lbs/day) | Summer CO Emissions (lbs/day) | Winter CO Emissions (lbs/day) |
|---------------------------|---------------------|--------------|--------------------------|-----------------|----------------------------|----------------------------|------------------------------------|--------------------------|--------------------------|-------------------------|-------------------------|--------------------------|-------------------------------|-------------------------------|
| MARINE TERMINAL AREAS     | 2,923 EMPLOYEES     | H-W          | 17.94                    | 73,426          | 0.26                       | 0.54                       | 3.11                               | 3.61                     | 4.68                     | 44.8                    | 86.7                    | 503.3                    | 584.2                         | 757.1                         |
|                           |                     | H-S          | 7.40                     | 0               | 0.28                       | 0.55                       | 3.11                               | 3.86                     | 4.95                     | 0.0                     | 0.0                     | 0.0                      | 0.0                           | 0.0                           |
|                           |                     | H-O          | 8.59                     | 4,399           | 0.29                       | 0.53                       | 3.11                               | 3.97                     | 5.13                     | 3.3                     | 5.1                     | 30.2                     | 38.5                          | 49.8                          |
|                           |                     | O-W          | 14.83                    | 75,862          | 0.23                       | 0.52                       | 3.11                               | 3.34                     | 4.25                     | 43.2                    | 87.4                    | 520.0                    | 558.6                         | 710.6                         |
|                           |                     | O-O          | 9.29                     | 4,758           | 0.21                       | 0.47                       | 3.11                               | 2.94                     | 3.61                     | 2.6                     | 5.0                     | 32.6                     | 30.8                          | 37.9                          |
| ON-SITE TRUCK TRIPS       | 747 ACRES           | O-O          | 1.86                     | 11,893          | 2.97                       | 11.14                      | 4.53                               | 14.32                    | 14.42                    | 78.3                    | 292.2                   | 118.7                    | 375.5                         | 378.0                         |
| BAY AREA TRUCK TRIPS      | 747 ACRES           | O-O          | 16.11                    | 174,159         | 1.82                       | 10.46                      | 4.53                               | 8.15                     | 8.21                     | 700.0                   | 4,014.8                 | 1,737.8                  | 3,129.0                       | 3,150.7                       |
| LONG DISTANCE TRUCK TRIPS | 747 ACRES           | O-O          | 48.44                    | 214,578         | 1.67                       | 10.84                      | 4.53                               | 7.59                     | 7.64                     | 805.7                   | 5,126.3                 | 2,141.1                  | 3,591.1                       | 3,616.4                       |
| TOTALS                    |                     |              | 17.47                    | 577,672         |                            |                            |                                    |                          |                          | 1,689.1                 | 9,639.2                 | 5,211.1                  | 8,450.0                       | 8,883.1                       |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

CO = carbon monoxide

Average trip distances are calculated from mean trip durations and the distribution of travel time by speed categories.

Different travel patterns and vehicle type mixes are assumed for employee trips and truck trips.

Average exhaust emission rates based on VMT-weighting of emission rates for the five speed categories, with weighting factors calculated in a manner consistent with the travel time and speed assumptions used to compute average trip lengths.

TABLE N-45. SUMMARY OF TRAFFIC-RELATED OZONE PRECURSOR EMISSIONS, ALTERNATIVE D AND EMISSION RATES FOR 2010

| Land Use                  | Amount of<br>Development | Net Daily Vehicle<br>Trip Generation |                   | Total<br>Trips | Daily VMT<br>Estimate | Average Summer Day<br>Traffic-Related Ozone<br>Precursor Emissions<br>(pounds per day) | Average Daily<br>Exhaust Plus<br>Entrained<br>PM10 Emissions<br>(pounds<br>per day) | Average Daily Traffic-<br>Related Carbon Monoxide<br>Emissions<br>(pounds per day) |         |         |
|---------------------------|--------------------------|--------------------------------------|-------------------|----------------|-----------------------|--|---|--|---------|---------|
|                           |                          | Internal<br>Trips                    | External<br>Trips |                |                       | ROG  | NOx   | Summer   | Winter  |         |
|                           |                          |                                      |                   |                |                       |  |   |  |         |         |
| FISCO AREAS 1, 2, & 3     | 0 EMPLOYEES              | 0                                    | 0                 | 0              | 0                     | 0.0  | 0.0   | 0.0  | 0.0     | 0.0     |
| FISCO AREAS 4 & 5         | 0 EMPLOYEES              | 0                                    | 0                 | 0              | 0                     | 0.0  | 0.0   | 0.0  | 0.0     | 0.0     |
| JIT AREA                  | 343 EMPLOYEES            | 0                                    | 1,201             | 1,201          | 18,598                | 11.0   | 21.6  | 127.5  | 142.3   | 182.6   |
| SPRR TERMINAL             | 0 EMPLOYEES              | 0                                    | 0                 | 0              | 0                     | 0.0  | 0.0   | 0.0  | 0.0     | 0.0     |
| UP RAIL TERMINAL          | 0 EMPLOYEES              | 0                                    | 0                 | 0              | 0                     | 0.0  | 0.0   | 0.0  | 0.0     | 0.0     |
| MARINE TERMINAL AREAS     | 2,923 EMPLOYEES          | 0                                    | 10,232            | 10,232         | 158,445               | 94.0   | 184.2   | 1,086.1  | 1,212.1 | 1,555.4 |
| ON-SITE TRUCK TRIPS       | 747 ACRES                | 6,394                                | 0                 | 6,394          | 11,893                | 78.3   | 292.2   | 118.7  | 375.5   | 378.0   |
| BAY AREA TRUCK TRIPS      | 747 ACRES                | 0                                    | 10,812            | 10,812         | 174,159               | 700.0  | 4,014.8   | 1,737.8  | 3,129.0 | 3,150.7 |
| LONG DISTANCE TRUCK TRIPS | 747 ACRES                | 0                                    | 4,430             | 4,430          | 214,578               | 805.7  | 5,126.3   | 2,141.1  | 3,591.1 | 3,616.4 |
|                           |                          |                                      |                   |                |                       |  |   |  |         |         |
| Auto Trips:               |                          | 0                                    | 11,433            | 11,433         | 177,043               | 105.0  | 205.9   | 1,213.5  | 1,354.4 | 1,738.0 |
| Truck Trips:              |                          | 6,394                                | 15,242            | 21,636         | 400,630               | 1,584.1  | 9,433.3   | 3,997.5  | 7,095.6 | 7,145.1 |
|                           |                          |                                      |                   |                |                       |  |   |  |         |         |
| Total                     |                          | 6,394                                | 26,675            | 33,069         | 577,672               | 1,689.1  | 9,639.2   | 5,211.1  | 8,450.0 | 8,883.1 |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

Different travel patterns and vehicle type mixes are assumed for employee trips and truck trips.



TABLE N-46. ESTIMATED ANNUAL VEHICLE TRAFFIC EMISSIONS, ALTERNATIVE D

| Land Use                  | Annual<br>Vehicle<br>Trips | Annual VMT  | Estimated Annual Vehicle Emissions<br>(Tons Per Year) For Alternative D |         |         |       |        |
|---------------------------|----------------------------|-------------|---|---------|---------|-------|--------|
|                           |                            |             | ROG   | NOx     | CO      | SOx   | PM10   |
| FISCO AREAS 1, 2, & 3     | 0                          | 0           | 0.00  | 0.00    | 0.00    | 0.00  | 0.00   |
| FISCO AREAS 4 & 5         | 0                          | 0           | 0.00  | 0.00    | 0.00    | 0.00  | 0.00   |
| JIT AREA                  | 300,250                    | 4,649,482   | 1.38  | 2.70    | 19.46   | 0.15  | 15.93  |
| SPRR TERMINAL             | 0                          | 0           | 0.00  | 0.00    | 0.00    | 0.00  | 0.00   |
| UP RAIL TERMINAL          | 0                          | 0           | 0.00  | 0.00    | 0.00    | 0.00  | 0.00   |
| MARINE TERMINAL AREAS     | 2,558,000                  | 39,611,175  | 11.74   | 23.03   | 165.82  | 1.31  | 135.76 |
| ON-SITE TRUCK TRIPS       | 1,598,500                  | 2,973,210   | 9.79  | 36.53   | 47.04   | 2.10  | 14.83  |
| BAY AREA TRUCK TRIPS      | 2,703,000                  | 43,539,699  | 87.50   | 501.85  | 392.03  | 30.72 | 217.22 |
| LONG DISTANCE TRUCK TRIPS | 1,107,500                  | 53,644,531  | 100.72  | 640.79  | 449.94  | 37.85 | 267.64 |
|                           | -----                      | -----       | -----   | -----   | -----   | ----- | -----  |
| Autos                     | 2,858,250                  | 44,260,657  | 13.1  | 25.7    | 185.3   | 1.5   | 151.7  |
| Trucks                    | 5,409,000                  | 100,157,440 | 198.0   | 1,179.2 | 889.0   | 70.7  | 499.7  |
|                           | -----                      | -----       | -----   | -----   | -----   | ----- | -----  |
| Total                     | 8,267,250                  | 144,418,097 | 211.1   | 1,204.9 | 1,074.3 | 72.1  | 651.4  |

Notes: VMT = vehicle miles traveled

ROG = reactive organic compounds

NOx = nitrogen oxides

PM10 = inhalable particulate matter

Annual emission estimates assume 250 working days per year.

Annual carbon monoxide emission estimates assume 8 months of summer emission rates and 4 months of winter emission rates.

Sulfur oxide emissions assume emission rates of 0.03 grams/vmt for passenger vehicles (Bay Area Air Quality Management District, 1996) and 0.64 grams/vmt for heavy trucks (assuming 0.05% sulfur content for diesel fuel).

TABLE N-47. SUMMARY OF TRAIN TYPE DATA USED FOR EMISSIONS ANALYSES

| TRAIN<br>TYPE | TYPICAL<br>LENGTH<br>(FEET) | AVERAGE<br>GROSS<br>TONS | # OF<br>ENGINES | ENGINE<br>MIX<br>FACTOR | CHASIS<br>MODEL | ENGINE<br>DUTY DATABASE<br>CYCLE | CODE | EMISSION RATE, LBS PER 1,000 TON-MILES |          |        |       |       |
|---------------|-----------------------------|--------------------------|-----------------|-------------------------|-----------------|----------------------------------|------|--|----------|--------|-------|-------|
|               |                             |                          |                 |                         |                 |                                  |      | ROG                                    | NOx      | CO     | SOx   | PM10  |
| AMTRAK        | 600                         | 500                      | 1               | 100%                    | F59PHI          | LINE                             | 22   | 0.011                                  | 0.727    | 0.071  | 0.011 | 0.017 |
| AMTRAK        | 1200                        | 1000                     | 2               | 100%                    | GP40            | LINE                             | 17   | 0.032                                  | 0.755    | 0.115  | 0.011 | 0.018 |
| SWITCHER      | 300                         | 350                      | 1               | 100%                    | SW1500          | YARD                             | 3    | 0.051                                  | 0.819    | 0.120  | 0.011 | 0.022 |
| FREIGHT       | 1200                        | 1500                     | 2               | 100%                    | GP9             | LINE                             | 11   | 0.045                                  | 0.814    | 0.136  | 0.011 | 0.018 |
| FREIGHT       | 6000                        | 6500                     | 4               | 68%                     | GP40            | LINE                             | 17   | 0.032                                  | 0.755    | 0.115  | 0.073 | 0.018 |
|               |                             |                          |                 | 32%                     | SD45            | LINE                             | 29   | 0.032                                  | 0.731    | 0.084  | 0.073 | 0.018 |
| FREIGHT       | 7500                        | 8000                     | 6               | 68%                     | GP40            | LINE                             | 17   | 0.032                                  | 0.755    | 0.115  | 0.073 | 0.018 |
|               |                             |                          |                 | 32%                     | SD45            | LINE                             | 29   | 0.032                                  | 0.731    | 0.084  | 0.073 | 0.018 |
| SEGMENT:      | A-SAC                       | A-SJ                     | B               | C/D                     | JIT             | E                                | F    | LATHROP                                | SAN JOSE | GILROY |       |       |
| MILES:        | 49                          | 56                       | 6               | 3.5                     | 4               | 1.5                              | 2    | 62                                     | 43       | 77     |       |       |

Notes: SOx emission rates assume 0.05% sulfur for Amtrak, yard, and local freight locomotives, and 0.32% sulfur for long haul freight locomotives.

TABLE N-48. RAIL TRAFFIC DATA USED FOR EMISSIONS ANALYSES, NO ACTION ALTERNATIVE

| TRAIN<br>TYPE | DAILY TRAIN NUMBERS BY RAIL SEGMENT, NO ACTION |      |    |     |     |    |           |          |        |
|---------------|--|------|----|-----|-----|----|-----------|----------|--------|
|               | A-SAC  | A-SJ | B  | C/D | JIT | E  | F LATHROP | SAN JOSE | GILROY |
| AMT600        | 12   | 8    | 20 | 20  |     | 30 | 10        | 10       |        |
| AMT1200       | 4  |      | 4  | 4   |     | 10 | 2         | 2        |        |
| SW300         |  |      | 2  | 2   |     |    |           |          |        |
| FR1200        |  |      | 4  |     |     | 4  | 4         | 2        | 2      |
| FR6000        | 9  | 9    | 17 |     | 17  | 4  | 4         | 4        |        |
| TOTAL         | 25   | 17   | 47 | 26  | 17  | 48 | 20        | 4        | 14     |

| TRAIN<br>TYPE | DAILY THOUSANDS OF TON-MILES BY RAIL SEGMENT, NO ACTION |      |       |      |      |      |           |          |        |      | TOTAL<br>FOR ALL<br>SEGMENTS |
|---------------|---|------|-------|------|------|------|-----------|----------|--------|------|------------------------------|
|               | A-SAC   | A-SJ | B     | C/D  | JIT  | E    | F LATHROP | SAN JOSE | GILROY |      |                              |
| AMT600        | 294   | 224  | 60.0  | 35.0 | 0.0  | 22.5 | 10.0      | 0.0      | 215.0  | 0.0  | 860.5                        |
| AMT1200       | 98  | 0    | 12.0  | 7.0  | 0.0  | 7.5  | 2.0       | 0.0      | 43.0   | 0.0  | 169.5                        |
| SW300         | 0   | 0    | 6.0   | 3.5  | 0.0  | 0.0  | 0.0       | 0.0      | 0.0    | 0.0  | 9.5                          |
| FR1200        | 0   | 0    | 12.0  | 0.0  | 0.0  | 3.0  | 4.0       | 0.0      | 43.0   | 49.0 | 111.0                        |
| FR6000        | 220.5   | 252  | 51.0  | 0.0  | 34.0 | 3.0  | 4.0       | 124.0    | 0.0    | 0.0  | 688.5                        |
| TOTAL         | 612.5   | 476  | 141.0 | 45.5 | 34.0 | 36.0 | 20.0      | 124.0    | 301.0  | 49.0 | 1,839.0                      |

TABLE N-49. RAIL TRAFFIC EMISSIONS FOR THE NO ACTION ALTERNATIVE

| TRAIN<br>TYPE | ANNUAL ROG EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, NO ACTION ALTERNATIVE |       |       |     |     |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|-------|-------|-----|-----|-----|-----|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ  | B     | C/D | JIT | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,202   | 916   | 245   | 143 | 0   | 92  | 41  | 0       | 879      | 0      | 1.76             |
| AMT1200       | 1,133   | 0     | 139   | 81  | 0   | 87  | 23  | 0       | 497      | 0      | 0.98             |
| SW300         | 0   | 0     | 113   | 66  | 0   | 0   | 0   | 0       | 0        | 0      | 0.09             |
| FR1200        | 0   | 0     | 199   | 0   | 0   | 50  | 66  | 0       | 713      | 813    | 0.92             |
| FR6000        | 2,558   | 2,924 | 592   | 0   | 394 | 35  | 46  | 1,439   | 0        | 0      | 3.99             |
| TOTALS        | 4,894   | 3,840 | 1,287 | 290 | 394 | 263 | 177 | 1,439   | 2,090    | 813    | 7.74             |

| TRAIN<br>TYPE | ANNUAL NO <sub>x</sub> EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, NO ACTION ALTERNATIVE |         |        |        |       |       |       |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|---------|--------|--------|-------|-------|-------|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ    | B      | C/D    | JIT   | E     | F     | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 78,056  | 59,471  | 15,930 | 9,292  | 0     | 5,974 | 2,655 | 0       | 57,082   | 0      | 114.23           |
| AMT1200       | 27,021  | 0       | 3,309  | 1,930  | 0     | 2,068 | 551   | 0       | 11,856   | 0      | 23.37            |
| SW300         | 0   | 0       | 1,793  | 1,046  | 0     | 0     | 0     | 0       | 0        | 0      | 1.42             |
| FR1200        | 0   | 0       | 3,563  | 0      | 0     | 891   | 1,188 | 0       | 12,768   | 14,550 | 16.48            |
| FR6000        | 60,173  | 68,769  | 13,918 | 0      | 9,278 | 819   | 1,092 | 33,839  | 0        | 0      | 93.94            |
| TOTALS        | 165,250   | 128,241 | 38,512 | 12,268 | 9,278 | 9,751 | 5,486 | 33,839  | 81,706   | 14,550 | 249.44           |



TABLE N-49. RAIL TRAFFIC EMISSIONS FOR THE NO ACTION ALTERNATIVE

| TRAIN<br>TYPE | ANNUAL CO EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, NO ACTION ALTERNATIVE |        |       |       |       |       |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|--|--------|-------|-------|-------|-------|-----|---------|----------|--------|------------------|
|               | A-SAC  | A-SJ   | B     | C/D   | JIT   | E     | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 7,638  | 5,820  | 1,559 | 909   | 0     | 585   | 260 | 0       | 5,586    | 0      | 11.18            |
| AMT1200       | 4,107  | 0      | 503   | 293   | 0     | 314   | 84  | 0       | 1,802    | 0      | 3.55             |
| SW300         | 0  | 0      | 262   | 153   | 0     | 0     | 0   | 0       | 0        | 0      | 0.21             |
| FR1200        | 0  | 0      | 598   | 0     | 0     | 149   | 199 | 0       | 2,142    | 2,441  | 2.76             |
| FR6000        | 8,457  | 9,666  | 1,956 | 0     | 1,304 | 115   | 153 | 4,756   | 0        | 0      | 13.20            |
| TOTALS        | 20,202   | 15,485 | 4,878 | 1,356 | 1,304 | 1,163 | 696 | 4,756   | 9,529    | 2,441  | 30.91            |

| TRAIN<br>TYPE | ANNUAL SO <sub>x</sub> EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, NO ACTION ALTERNATIVE |       |       |     |     |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|-------|-------|-----|-----|-----|-----|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ  | B     | C/D | JIT | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,230   | 937   | 251   | 146 | 0   | 94  | 42  | 0       | 900      | 0      | 1.80             |
| AMT1200       | 410   | 0     | 50    | 29  | 0   | 31  | 8   | 0       | 180      | 0      | 0.35             |
| SW300         | 0   | 0     | 25    | 15  | 0   | 0   | 0   | 0       | 0        | 0      | 0.02             |
| FR1200        | 0   | 0     | 50    | 0   | 0   | 13  | 17  | 0       | 180      | 205    | 0.23             |
| FR6000        | 5,905   | 6,749 | 1,366 | 0   | 911 | 80  | 107 | 3,321   | 0        | 0      | 9.22             |
| TOTALS        | 7,546   | 7,686 | 1,743 | 190 | 911 | 218 | 174 | 3,321   | 1,260    | 205    | 11.63            |

TABLE N-49. RAIL TRAFFIC EMISSIONS FOR THE NO ACTION ALTERNATIVE

| TRAIN<br>TYPE | ANNUAL PM10 EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, NO ACTION ALTERNATIVE |       |     |     |     |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|--|-------|-----|-----|-----|-----|-----|---------|----------|--------|------------------|
|               | A-SAC  | A-SJ  | B   | C/D | JIT | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,845  | 1,406 | 377 | 220 | 0   | 141 | 63  | 0       | 1,350    | 0      | 2.70             |
| AMT1200       | 649  | 0     | 80  | 46  | 0   | 50  | 13  | 0       | 285      | 0      | 0.56             |
| SW300         | 0  | 0     | 48  | 28  | 0   | 0   | 0   | 0       | 0        | 0      | 0.04             |
| FR1200        | 0  | 0     | 80  | 0   | 0   | 20  | 27  | 0       | 285      | 325    | 0.37             |
| FR6000        | 1,457  | 1,665 | 337 | 0   | 225 | 20  | 26  | 819     | 0        | 0      | 2.27             |
| TOTALS        | 3,952  | 3,071 | 921 | 294 | 225 | 231 | 129 | 819     | 1,919    | 325    | 5.94             |

Notes: ROG = reactive organic compounds

NOx = nitrogen oxides

CO = carbon monoxide

SOx = sulfur oxides

PM10 = inhalable particulate matter

A-SAC = rail segment from Stege (Richmond) to El Mira (Solano County)

A-SJ = rail segment from Stege (Richmond) to San Joaquin County line via Antioch

B = rail segment between Stege (Richmond) and the Desert Yard (Oakland)

C/D = main line rail segment through the Desert Yard and West Oakland yard to Jack London Square

JIT = West Oakland rail yard and Joint Intermodal Terminal rail segments

E = rail segment through Jack London Square

F = rail segment from Jack London Square to Fruitvale

LATHROP = rail segment from Fruitvale to San Joaquin County line via Livermore

SAN JOSE = rail segment from Fruitvale to the San Jose area

GILROY = rail segment from Fruitvale to the San Benito County Line

TABLE N-50. RAIL TRAFFIC DATA USED FOR EMISSIONS ANALYSES, ALTERNATIVE A

| TRAIN<br>TYPE | DAILY TRAIN NUMBERS BY RAIL SEGMENT, ALTERNATIVE A |      |    |     |     |    |    |         |          |        |
|---------------|--|------|----|-----|-----|----|----|---------|----------|--------|
|               | A-SAC  | A-SJ | B  | C/D | JIT | E  | F  | LATHROP | SAN JOSE | GILROY |
| AMT600        | 12   | 8    | 20 | 20  |     | 30 | 10 |         | 10       |        |
| AMT1200       | 4  |      | 4  | 4   |     | 10 | 2  |         | 2        |        |
| SW300         |  |      | 2  | 2   |     |    |    |         |          |        |
| FR1200        |  |      | 2  |     |     | 4  | 4  |         | 2        | 2      |
| FR6000        | 13   | 13   | 26 |     | 26  | 4  | 4  | 4       |          |        |
| TOTAL         | 29   | 21   | 54 | 26  | 26  | 48 | 20 | 4       | 14       | 2      |

| TRAIN<br>TYPE | DAILY THOUSANDS OF TON-MILES BY RAIL SEGMENT, ALTERNATIVE A |       |       |      |      |      |      |         |          |        | TOTAL<br>FOR ALL<br>SEGMENTS |
|---------------|---|-------|-------|------|------|------|------|---------|----------|--------|------------------------------|
|               | A-SAC   | A-SJ  | B     | C/D  | JIT  | E    | F    | LATHROP | SAN JOSE | GILROY |                              |
| AMT600        | 294.0   | 224.0 | 60.0  | 35.0 | 0.0  | 22.5 | 10.0 | 0.0     | 215.0    | 0.0    | 860.5                        |
| AMT1200       | 98.0  | 0.0   | 12.0  | 7.0  | 0.0  | 7.5  | 2.0  | 0.0     | 43.0     | 0.0    | 169.5                        |
| SW300         | 0.0   | 0.0   | 6.0   | 3.5  | 0.0  | 0.0  | 0.0  | 0.0     | 0.0      | 0.0    | 9.5                          |
| FR1200        | 0.0   | 0.0   | 6.0   | 0.0  | 0.0  | 3.0  | 4.0  | 0.0     | 43.0     | 77.0   | 133.0                        |
| FR6000        | 318.5   | 364.0 | 78.0  | 0.0  | 52.0 | 3.0  | 4.0  | 124.0   | 0.0      | 0.0    | 943.5                        |
| TOTAL         | 710.5   | 588.0 | 162.0 | 45.5 | 52.0 | 36.0 | 20.0 | 124.0   | 301.0    | 77.0   | 2,116.0                      |

TABLE N-51. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE A

| TRAIN<br>TYPE | ANNUAL ROG EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE A |       |       |     |     |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|-------|-------|-----|-----|-----|-----|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ  | B     | C/D | JIT | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,202   | 916   | 245   | 143 | 0   | 92  | 41  | 0       | 879      | 0      | 1.76             |
| AMT1200       | 1,133   | 0     | 139   | 81  | 0   | 87  | 23  | 0       | 497      | 0      | 0.98             |
| SW300         | 0   | 0     | 113   | 66  | 0   | 0   | 0   | 0       | 0        | 0      | 0.09             |
| FR1200        | 0   | 0     | 100   | 0   | 0   | 50  | 66  | 0       | 713      | 1,277  | 1.10             |
| FR6000        | 3,695   | 4,223 | 905   | 0   | 603 | 35  | 46  | 1,439   | 0        | 0      | 5.47             |
| TOTALS        | 6,031   | 5,139 | 1,501 | 290 | 603 | 263 | 177 | 1,439   | 2,090    | 1,277  | 9.41             |

| TRAIN<br>TYPE | ANNUAL NO <sub>x</sub> EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE A |         |        |        |        |       |       |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|---------|--------|--------|--------|-------|-------|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ    | B      | C/D    | JIT    | E     | F     | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 78,056  | 59,471  | 15,930 | 9,292  | 0      | 5,974 | 2,655 | 0       | 57,082   | 0      | 114.23           |
| AMT1200       | 27,021  | 0       | 3,309  | 1,930  | 0      | 2,068 | 551   | 0       | 11,856   | 0      | 23.37            |
| SW300         | 0   | 0       | 1,793  | 1,046  | 0      | 0     | 0     | 0       | 0        | 0      | 1.42             |
| FR1200        | 0   | 0       | 1,782  | 0      | 0      | 891   | 1,188 | 0       | 12,768   | 22,864 | 19.75            |
| FR6000        | 86,917  | 99,333  | 21,286 | 0      | 14,190 | 819   | 1,092 | 33,839  | 0        | 0      | 128.74           |
| TOTALS        | 191,994   | 158,805 | 44,099 | 12,268 | 14,190 | 9,751 | 5,486 | 33,839  | 81,706   | 22,864 | 287.50           |



TABLE N-51. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE A

| TRAIN<br>TYPE | ANNUAL CO EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE A |        |       |       |       |       |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|--|--------|-------|-------|-------|-------|-----|---------|----------|--------|------------------|
|               | A-SAC  | A-SJ   | B     | C/D   | JIT   | E     | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 7,638  | 5,820  | 1,559 | 909   | 0     | 585   | 260 | 0       | 5,586    | 0      | 11.18            |
| AMT1200       | 4,107  | 0      | 503   | 293   | 0     | 314   | 84  | 0       | 1,802    | 0      | 3.55             |
| SW300         | 0  | 0      | 262   | 153   | 0     | 0     | 0   | 0       | 0        | 0      | 0.21             |
| FR1200        | 0  | 0      | 299   | 0     | 0     | 149   | 199 | 0       | 2,142    | 3,835  | 3.31             |
| FR6000        | 12,216   | 13,962 | 2,992 | 0     | 1,995 | 115   | 153 | 4,756   | 0        | 0      | 18.09            |
| TOTALS        | 23,961   | 19,781 | 5,615 | 1,356 | 1,995 | 1,163 | 696 | 4,756   | 9,529    | 3,835  | 36.34            |

| TRAIN<br>TYPE | ANNUAL SO <sub>x</sub> EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE A |        |       |     |       |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|--------|-------|-----|-------|-----|-----|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ   | B     | C/D | JIT   | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,230   | 937    | 251   | 146 | 0     | 94  | 42  | 0       | 900      | 0      | 1.80             |
| AMT1200       | 410   | 0      | 50    | 29  | 0     | 31  | 8   | 0       | 180      | 0      | 0.35             |
| SW300         | 0   | 0      | 25    | 15  | 0     | 0   | 0   | 0       | 0        | 0      | 0.02             |
| FR1200        | 0   | 0      | 25    | 0   | 0     | 13  | 17  | 0       | 180      | 322    | 0.28             |
| FR6000        | 8,530   | 9,749  | 2,089 | 0   | 1,393 | 80  | 107 | 3,321   | 0        | 0      | 12.63            |
| TOTALS        | 10,171  | 10,686 | 2,441 | 190 | 1,393 | 218 | 174 | 3,321   | 1,260    | 322    | 15.09            |

TABLE N-51. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE A

| TRAIN<br>TYPE | ANNUAL PM10 EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE A |       |       |     |     |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|--|-------|-------|-----|-----|-----|-----|---------|----------|--------|------------------|
|               | A-SAC  | A-SJ  | B     | C/D | JIT | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,845  | 1,406 | 377   | 220 | 0   | 141 | 63  | 0       | 1,350    | 0      | 2.70             |
| AMT1200       | 649  | 0     | 80    | 46  | 0   | 50  | 13  | 0       | 285      | 0      | 0.56             |
| SW300         | 0  | 0     | 48    | 28  | 0   | 0   | 0   | 0       | 0        | 0      | 0.04             |
| FR1200        | 0  | 0     | 40    | 0   | 0   | 20  | 27  | 0       | 285      | 510    | 0.44             |
| FR6000        | 2,104  | 2,405 | 515   | 0   | 344 | 20  | 26  | 819     | 0        | 0      | 3.12             |
| TOTALS        | 4,599  | 3,811 | 1,059 | 294 | 344 | 231 | 129 | 819     | 1,919    | 510    | 6.86             |

Notes: ROG = reactive organic compounds

NOx = nitrogen oxides

CO = carbon monoxide

SOx = sulfur oxides

PM10 = inhalable particulate matter

A-SAC = rail segment from Stege (Richmond) to El Mira (Solano County)

A-SJ = rail segment from Stege (Richmond) to San Joaquin County line via Antioch

B = rail segment between Stege (Richmond) and the Desert Yard (Oakland)

C/D = main line rail segment through the Desert Yard and West Oakland yard to Jack London Square

JIT = West Oakland rail yard and Joint Intermodal Terminal rail segments

E = rail segment through Jack London Square

F = rail segment from Jack London Square to Fruitvale

LATHROP = rail segment from Fruitvale to San Joaquin County line via Livermore

SAN JOSE = rail segment from Fruitvale to the San Jose area

GILROY = rail segment from Fruitvale to the San Benito County Line

TABLE N-52. RAIL TRAFFIC DATA USED FOR EMISSIONS ANALYSES, ALTERNATIVE B

| TRAIN<br>TYPE | DAILY TRAIN NUMBERS BY RAIL SEGMENT, ALTERNATIVE B |      |    |     |     |    |    |         |          |        |
|---------------|--|------|----|-----|-----|----|----|---------|----------|--------|
|               | A-SAC  | A-SJ | B  | C/D | JIT | E  | F  | LATHROP | SAN JOSE | GILROY |
| AMT600        | 12   | 8    | 20 | 20  |     | 30 | 10 |         | 10       |        |
| AMT1200       | 4  |      | 4  | 4   |     | 10 | 2  |         | 2        |        |
| SW300         |  |      | 2  | 2   |     |    |    |         |          |        |
| FR1200        |  |      | 2  |     |     | 4  | 4  |         | 2        | 2      |
| FR6000        | 10   | 10   | 20 |     | 20  | 4  | 4  | 4       |          |        |
| TOTAL         | 26   | 18   | 48 | 26  | 20  | 48 | 20 | 4       | 14       | 2      |

| TRAIN<br>TYPE | DAILY THOUSANDS OF TON-MILES BY RAIL SEGMENT, ALTERNATIVE B |       |       |      |      |      |      |         |          |        | TOTAL<br>FOR ALL<br>SEGMENTS |
|---------------|---|-------|-------|------|------|------|------|---------|----------|--------|------------------------------|
|               | A-SAC   | A-SJ  | B     | C/D  | JIT  | E    | F    | LATHROP | SAN JOSE | GILROY |                              |
| AMT600        | 294.0   | 224.0 | 60.0  | 35.0 | 0.0  | 22.5 | 10.0 | 0.0     | 215.0    | 0.0    | 860.5                        |
| AMT1200       | 98.0  | 0.0   | 12.0  | 7.0  | 0.0  | 7.5  | 2.0  | 0.0     | 43.0     | 0.0    | 169.5                        |
| SW300         | 0.0   | 0.0   | 6.0   | 3.5  | 0.0  | 0.0  | 0.0  | 0.0     | 0.0      | 0.0    | 9.5                          |
| FR1200        | 0.0   | 0.0   | 6.0   | 0.0  | 0.0  | 3.0  | 4.0  | 0.0     | 43.0     | 77.0   | 133.0                        |
| FR6000        | 245.0   | 280.0 | 60.0  | 0.0  | 40.0 | 3.0  | 4.0  | 124.0   | 0.0      | 0.0    | 756.0                        |
| TOTAL         | 637.0   | 504.0 | 144.0 | 45.5 | 40.0 | 36.0 | 20.0 | 124.0   | 301.0    | 77.0   | 1,928.5                      |

TABLE N-53. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE B

| TRAIN<br>TYPE | ANNUAL ROG EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE B |       |       |     |     |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|-------|-------|-----|-----|-----|-----|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ  | B     | C/D | JIT | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,202   | 916   | 245   | 143 | 0   | 92  | 41  | 0       | 879      | 0      | 1.76             |
| AMT1200       | 1,133   | 0     | 139   | 81  | 0   | 87  | 23  | 0       | 497      | 0      | 0.98             |
| SW300         | 0   | 0     | 113   | 66  | 0   | 0   | 0   | 0       | 0        | 0      | 0.09             |
| FR1200        | 0   | 0     | 100   | 0   | 0   | 50  | 66  | 0       | 713      | 1,277  | 1.10             |
| FR6000        | 2,843   | 3,249 | 696   | 0   | 464 | 35  | 46  | 1,439   | 0        | 0      | 4.39             |
| TOTALS        | 5,178   | 4,165 | 1,292 | 290 | 464 | 263 | 177 | 1,439   | 2,090    | 1,277  | 8.32             |

| TRAIN<br>TYPE | ANNUAL NO <sub>x</sub> EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE B |         |        |        |        |       |       |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|---------|--------|--------|--------|-------|-------|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ    | B      | C/D    | JIT    | E     | F     | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 78,056  | 59,471  | 15,930 | 9,292  | 0      | 5,974 | 2,655 | 0       | 57,082   | 0      | 114.23           |
| AMT1200       | 27,021  | 0       | 3,309  | 1,930  | 0      | 2,068 | 551   | 0       | 11,856   | 0      | 23.37            |
| SW300         | 0   | 0       | 1,793  | 1,046  | 0      | 0     | 0     | 0       | 0        | 0      | 1.42             |
| FR1200        | 0   | 0       | 1,782  | 0      | 0      | 891   | 1,188 | 0       | 12,768   | 22,864 | 19.75            |
| FR6000        | 66,859  | 76,410  | 16,374 | 0      | 10,916 | 819   | 1,092 | 33,839  | 0        | 0      | 103.15           |
| TOTALS        | 171,936   | 135,882 | 39,187 | 12,268 | 10,916 | 9,751 | 5,486 | 33,839  | 81,706   | 22,864 | 261.92           |



TABLE N-53. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE B

| TRAIN<br>TYPE | ANNUAL CO EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE B |        |       |       |       |       |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|--|--------|-------|-------|-------|-------|-----|---------|----------|--------|------------------|
|               | A-SAC  | A-SJ   | B     | C/D   | JIT   | E     | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 7,638  | 5,820  | 1,559 | 909   | 0     | 585   | 260 | 0       | 5,586    | 0      | 11.18            |
| AMT1200       | 4,107  | 0      | 503   | 293   | 0     | 314   | 84  | 0       | 1,802    | 0      | 3.55             |
| SW300         | 0  | 0      | 262   | 153   | 0     | 0     | 0   | 0       | 0        | 0      | 0.21             |
| FR1200        | 0  | 0      | 299   | 0     | 0     | 149   | 199 | 0       | 2,142    | 3,835  | 3.31             |
| FR6000        | 9,397  | 10,740 | 2,301 | 0     | 1,534 | 115   | 153 | 4,756   | 0        | 0      | 14.50            |
| TOTALS        | 21,142   | 16,559 | 4,924 | 1,356 | 1,534 | 1,163 | 696 | 4,756   | 9,529    | 3,835  | 32.75            |

| TRAIN<br>TYPE | ANNUAL SO <sub>x</sub> EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE B |       |       |     |       |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|-------|-------|-----|-------|-----|-----|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ  | B     | C/D | JIT   | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,230   | 937   | 251   | 146 | 0     | 94  | 42  | 0       | 900      | 0      | 1.80             |
| AMT1200       | 410   | 0     | 50    | 29  | 0     | 31  | 8   | 0       | 180      | 0      | 0.35             |
| SW300         | 0   | 0     | 25    | 15  | 0     | 0   | 0   | 0       | 0        | 0      | 0.02             |
| FR1200        | 0   | 0     | 25    | 0   | 0     | 13  | 17  | 0       | 180      | 322    | 0.28             |
| FR6000        | 6,562   | 7,499 | 1,607 | 0   | 1,071 | 80  | 107 | 3,321   | 0        | 0      | 10.12            |
| TOTALS        | 8,202   | 8,436 | 1,958 | 190 | 1,071 | 218 | 174 | 3,321   | 1,260    | 322    | 12.58            |

TABLE N-53. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE B

| TRAIN<br>TYPE | ANNUAL PM10 EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE B |       |     |     |     |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|--|-------|-----|-----|-----|-----|-----|---------|----------|--------|------------------|
|               | A-SAC  | A-SJ  | B   | C/D | JIT | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,845  | 1,406 | 377 | 220 | 0   | 141 | 63  | 0       | 1,350    | 0      | 2.70             |
| AMT1200       | 649  | 0     | 80  | 46  | 0   | 50  | 13  | 0       | 285      | 0      | 0.56             |
| SW300         | 0  | 0     | 48  | 28  | 0   | 0   | 0   | 0       | 0        | 0      | 0.04             |
| FR1200        | 0  | 0     | 40  | 0   | 0   | 20  | 27  | 0       | 285      | 510    | 0.44             |
| FR6000        | 1,619  | 1,850 | 396 | 0   | 264 | 20  | 26  | 819     | 0        | 0      | 2.50             |
| TOTALS        | 4,114  | 3,256 | 940 | 294 | 264 | 231 | 129 | 819     | 1,919    | 510    | 6.24             |

Notes: ROG = reactive organic compounds

NOx = nitrogen oxides

CO = carbon monoxide

SOx = sulfur oxides

PM10 = inhalable particulate matter

A-SAC = rail segment from Stege (Richmond) to El Mira (Solano County)

A-SJ = rail segment from Stege (Richmond) to San Joaquin County line via Antioch

B = rail segment between Stege (Richmond) and the Desert Yard (Oakland)

C/D = main line rail segment through the Desert Yard and West Oakland yard to Jack London Square

JIT = West Oakland rail yard and Joint Intermodal Terminal rail segments

E = rail segment through Jack London Square

F = rail segment from Jack London Square to Fruitvale

LATHROP = rail segment from Fruitvale to San Joaquin County line via Livermore

SAN JOSE = rail segment from Fruitvale to the San Jose area

GILROY = rail segment from Fruitvale to the San Benito County Line

TABLE N-54. RAIL TRAFFIC DATA USED FOR EMISSIONS ANALYSES, ALTERNATIVE C

| TRAIN<br>TYPE | DAILY TRAIN NUMBERS BY RAIL SEGMENT, ALTERNATIVE C |      |    |     |     |    |           |          |        |
|---------------|--|------|----|-----|-----|----|-----------|----------|--------|
|               | A-SAC  | A-SJ | B  | C/D | JIT | E  | F LATHROP | SAN JOSE | GILROY |
| AMT600        | 12   | 8    | 20 | 20  |     | 30 | 10        | 10       |        |
| AMT1200       | 4  |      | 4  | 4   |     | 10 | 2         | 2        |        |
| SW300         |  |      | 2  | 2   |     |    |           |          |        |
| FR1200        |  |      | 2  |     |     | 4  | 4         | 2        | 2      |
| FR6000        | 14   | 13   | 27 |     | 27  | 4  | 4         | 4        |        |
| TOTAL         | 30   | 21   | 55 | 26  | 27  | 48 | 20        | 4        | 14     |

| TRAIN<br>TYPE | DAILY THOUSANDS OF TON-MILES BY RAIL SEGMENT, ALTERNATIVE C |       |       |      |      |      |           |          |        |      | TOTAL<br>FOR ALL<br>SEGMENTS |
|---------------|---|-------|-------|------|------|------|-----------|----------|--------|------|------------------------------|
|               | A-SAC   | A-SJ  | B     | C/D  | JIT  | E    | F LATHROP | SAN JOSE | GILROY |      |                              |
| AMT600        | 294.0   | 224.0 | 60.0  | 35.0 | 0.0  | 22.5 | 10.0      | 0.0      | 215.0  | 0.0  | 860.5                        |
| AMT1200       | 98.0  | 0.0   | 12.0  | 7.0  | 0.0  | 7.5  | 2.0       | 0.0      | 43.0   | 0.0  | 169.5                        |
| SW300         | 0.0   | 0.0   | 6.0   | 3.5  | 0.0  | 0.0  | 0.0       | 0.0      | 0.0    | 0.0  | 9.5                          |
| FR1200        | 0.0   | 0.0   | 6.0   | 0.0  | 0.0  | 3.0  | 4.0       | 0.0      | 43.0   | 77.0 | 133.0                        |
| FR6000        | 343.0   | 364.0 | 81.0  | 0.0  | 54.0 | 3.0  | 4.0       | 124.0    | 0.0    | 0.0  | 973.0                        |
| TOTAL         | 735.0   | 588.0 | 165.0 | 45.5 | 54.0 | 36.0 | 20.0      | 124.0    | 301.0  | 77.0 | 2,145.5                      |

TABLE N-55. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE C

| TRAIN<br>TYPE | ANNUAL ROG EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE C |       |       |     |     |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|-------|-------|-----|-----|-----|-----|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ  | B     | C/D | JIT | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,202   | 916   | 245   | 143 | 0   | 92  | 41  | 0       | 879      | 0      | 1.76             |
| AMT1200       | 1,133   | 0     | 139   | 81  | 0   | 87  | 23  | 0       | 497      | 0      | 0.98             |
| SW300         | 0   | 0     | 113   | 66  | 0   | 0   | 0   | 0       | 0        | 0      | 0.09             |
| FR1200        | 0   | 0     | 100   | 0   | 0   | 50  | 66  | 0       | 713      | 1,277  | 1.10             |
| FR6000        | 3,980   | 4,223 | 940   | 0   | 627 | 35  | 46  | 1,439   | 0        | 0      | 5.64             |
| TOTALS        | 6,315   | 5,139 | 1,536 | 290 | 627 | 263 | 177 | 1,439   | 2,090    | 1,277  | 9.58             |

| TRAIN<br>TYPE | ANNUAL NO <sub>x</sub> EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE C |         |        |        |        |       |       |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|---------|--------|--------|--------|-------|-------|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ    | B      | C/D    | JIT    | E     | F     | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 78,056  | 59,471  | 15,930 | 9,292  | 0      | 5,974 | 2,655 | 0       | 57,082   | 0      | 114.23           |
| AMT1200       | 27,021  | 0       | 3,309  | 1,930  | 0      | 2,068 | 551   | 0       | 11,856   | 0      | 23.37            |
| SW300         | 0   | 0       | 1,793  | 1,046  | 0      | 0     | 0     | 0       | 0        | 0      | 1.42             |
| FR1200        | 0   | 0       | 1,782  | 0      | 0      | 891   | 1,188 | 0       | 12,768   | 22,864 | 19.75            |
| FR6000        | 93,603  | 99,333  | 22,104 | 0      | 14,736 | 819   | 1,092 | 33,839  | 0        | 0      | 132.76           |
| TOTALS        | 198,680   | 158,805 | 44,917 | 12,268 | 14,736 | 9,751 | 5,486 | 33,839  | 81,706   | 22,864 | 291.53           |



TABLE N-55. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE C

| TRAIN<br>TYPE | ANNUAL CO EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE C |        |       |       |       |       |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|--|--------|-------|-------|-------|-------|-----|---------|----------|--------|------------------|
|               | A-SAC  | A-SJ   | B     | C/D   | JIT   | E     | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 7,638  | 5,820  | 1,559 | 909   | 0     | 585   | 260 | 0       | 5,586    | 0      | 11.18            |
| AMT1200       | 4,107  | 0      | 503   | 293   | 0     | 314   | 84  | 0       | 1,802    | 0      | 3.55             |
| SW300         | 0  | 0      | 262   | 153   | 0     | 0     | 0   | 0       | 0        | 0      | 0.21             |
| FR1200        | 0  | 0      | 299   | 0     | 0     | 149   | 199 | 0       | 2,142    | 3,835  | 3.31             |
| FR6000        | 13,156   | 13,962 | 3,107 | 0     | 2,071 | 115   | 153 | 4,756   | 0        | 0      | 18.66            |
| TOTALS        | 24,901   | 19,781 | 5,730 | 1,356 | 2,071 | 1,163 | 696 | 4,756   | 9,529    | 3,835  | 36.91            |

| TRAIN<br>TYPE | ANNUAL SO <sub>x</sub> EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE C |        |       |     |       |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|--------|-------|-----|-------|-----|-----|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ   | B     | C/D | JIT   | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,230   | 937    | 251   | 146 | 0     | 94  | 42  | 0       | 900      | 0      | 1.80             |
| AMT1200       | 410   | 0      | 50    | 29  | 0     | 31  | 8   | 0       | 180      | 0      | 0.35             |
| SW300         | 0   | 0      | 25    | 15  | 0     | 0   | 0   | 0       | 0        | 0      | 0.02             |
| FR1200        | 0   | 0      | 25    | 0   | 0     | 13  | 17  | 0       | 180      | 322    | 0.28             |
| FR6000        | 9,186   | 9,749  | 2,169 | 0   | 1,446 | 80  | 107 | 3,321   | 0        | 0      | 13.03            |
| TOTALS        | 10,827  | 10,686 | 2,521 | 190 | 1,446 | 218 | 174 | 3,321   | 1,260    | 322    | 15.48            |

TABLE N-55. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE C

| TRAIN<br>TYPE | ANNUAL PM10 EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE C |       |       |     |     |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|--|-------|-------|-----|-----|-----|-----|---------|----------|--------|------------------|
|               | A-SAC  | A-SJ  | B     | C/D | JIT | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,845  | 1,406 | 377   | 220 | 0   | 141 | 63  | 0       | 1,350    | 0      | 2.70             |
| AMT1200       | 649  | 0     | 80    | 46  | 0   | 50  | 13  | 0       | 285      | 0      | 0.56             |
| SW300         | 0  | 0     | 48    | 28  | 0   | 0   | 0   | 0       | 0        | 0      | 0.04             |
| FR1200        | 0  | 0     | 40    | 0   | 0   | 20  | 27  | 0       | 285      | 510    | 0.44             |
| FR6000        | 2,266  | 2,405 | 535   | 0   | 357 | 20  | 26  | 819     | 0        | 0      | 3.21             |
| TOTALS        | 4,761  | 3,811 | 1,079 | 294 | 357 | 231 | 129 | 819     | 1,919    | 510    | 6.96             |

Notes: ROG = reactive organic compounds

NOx = nitrogen oxides

CO = carbon monoxide

SOx = sulfur oxides

PM10 = inhalable particulate matter

A-SAC = rail segment from Stege (Richmond) to El Mira (Solano County)

A-SJ = rail segment from Stege (Richmond) to San Joaquin County line via Antioch

B = rail segment between Stege (Richmond) and the Desert Yard (Oakland)

C/D = main line rail segment through the Desert Yard and West Oakland yard to Jack London Square

JIT = West Oakland rail yard and Joint Intermodal Terminal rail segments

E = rail segment through Jack London Square

F = rail segment from Jack London Square to Fruitvale

LATHROP = rail segment from Fruitvale to San Joaquin County line via Livermore

SAN JOSE = rail segment from Fruitvale to the San Jose area

GILROY = rail segment from Fruitvale to the San Benito County Line

TABLE N-56. RAIL TRAFFIC DATA USED FOR EMISSIONS ANALYSES, ALTERNATIVE D

| TRAIN<br>TYPE | DAILY TRAIN NUMBERS BY RAIL SEGMENT, ALTERNATIVE D |      |    |     |     |    |    |         |          |        |
|---------------|--|------|----|-----|-----|----|----|---------|----------|--------|
|               | A-SAC  | A-SJ | B  | C/D | JIT | E  | F  | LATHROP | SAN JOSE | GILROY |
| AMT600        | 12   | 8    | 20 | 20  |     | 30 | 10 |         | 10       |        |
| AMT1200       | 4  |      | 4  | 4   |     | 10 | 2  |         | 2        |        |
| SW300         |  |      | 2  | 2   |     |    |    |         |          |        |
| FR1200        |  |      | 2  |     |     | 4  | 4  |         | 2        | 2      |
| FR6000        | 14   | 13   | 27 |     | 27  | 4  | 4  | 4       |          |        |
| TOTAL         | 30   | 21   | 55 | 26  | 27  | 48 | 20 | 4       | 14       | 2      |

| TRAIN<br>TYPE | DAILY THOUSANDS OF TON-MILES BY RAIL SEGMENT, ALTERNATIVE D |       |       |      |      |      |      |         |          |        | TOTAL<br>FOR ALL<br>SEGMENTS |
|---------------|---|-------|-------|------|------|------|------|---------|----------|--------|------------------------------|
|               | A-SAC   | A-SJ  | B     | C/D  | JIT  | E    | F    | LATHROP | SAN JOSE | GILROY |                              |
| AMT600        | 294.0   | 224.0 | 60.0  | 35.0 | 0.0  | 22.5 | 10.0 | 0.0     | 215.0    | 0.0    | 860.5                        |
| AMT1200       | 98.0  | 0.0   | 12.0  | 7.0  | 0.0  | 7.5  | 2.0  | 0.0     | 43.0     | 0.0    | 169.5                        |
| SW300         | 0.0   | 0.0   | 6.0   | 3.5  | 0.0  | 0.0  | 0.0  | 0.0     | 0.0      | 0.0    | 9.5                          |
| FR1200        | 0.0   | 0.0   | 6.0   | 0.0  | 0.0  | 3.0  | 4.0  | 0.0     | 43.0     | 77.0   | 133.0                        |
| FR6000        | 343.0   | 364.0 | 81.0  | 0.0  | 54.0 | 3.0  | 4.0  | 124.0   | 0.0      | 0.0    | 973.0                        |
| TOTAL         | 735.0   | 588.0 | 165.0 | 45.5 | 54.0 | 36.0 | 20.0 | 124.0   | 301.0    | 77.0   | 2,145.5                      |

TABLE N-57. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE D

| TRAIN<br>TYPE | ANNUAL ROG EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE D |       |       |     |     |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|-------|-------|-----|-----|-----|-----|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ  | B     | C/D | JIT | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,202   | 916   | 245   | 143 | 0   | 92  | 41  | 0       | 879      | 0      | 1.76             |
| AMT1200       | 1,133   | 0     | 139   | 81  | 0   | 87  | 23  | 0       | 497      | 0      | 0.98             |
| SW300         | 0   | 0     | 113   | 66  | 0   | 0   | 0   | 0       | 0        | 0      | 0.09             |
| FR1200        | 0   | 0     | 100   | 0   | 0   | 50  | 66  | 0       | 713      | 1,277  | 1.10             |
| FR6000        | 3,980   | 4,223 | 940   | 0   | 627 | 35  | 46  | 1,439   | 0        | 0      | 5.64             |
| TOTALS        | 6,315   | 5,139 | 1,536 | 290 | 627 | 263 | 177 | 1,439   | 2,090    | 1,277  | 9.58             |

| TRAIN<br>TYPE | ANNUAL NO <sub>x</sub> EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE D |         |        |        |        |       |       |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|---------|--------|--------|--------|-------|-------|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ    | B      | C/D    | JIT    | E     | F     | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 78,056  | 59,471  | 15,930 | 9,292  | 0      | 5,974 | 2,655 | 0       | 57,082   | 0      | 114.23           |
| AMT1200       | 27,021  | 0       | 3,309  | 1,930  | 0      | 2,068 | 551   | 0       | 11,856   | 0      | 23.37            |
| SW300         | 0   | 0       | 1,793  | 1,046  | 0      | 0     | 0     | 0       | 0        | 0      | 1.42             |
| FR1200        | 0   | 0       | 1,782  | 0      | 0      | 891   | 1,188 | 0       | 12,768   | 22,864 | 19.75            |
| FR6000        | 93,603  | 99,333  | 22,104 | 0      | 14,736 | 819   | 1,092 | 33,839  | 0        | 0      | 132.76           |
| TOTALS        | 198,680   | 158,805 | 44,917 | 12,268 | 14,736 | 9,751 | 5,486 | 33,839  | 81,706   | 22,864 | 291.53           |



TABLE N-57. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE D

| TRAIN<br>TYPE | ANNUAL CO EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE D |        |       |       |       |       |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|--|--------|-------|-------|-------|-------|-----|---------|----------|--------|------------------|
|               | A-SAC  | A-SJ   | B     | C/D   | JIT   | E     | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 7,638  | 5,820  | 1,559 | 909   | 0     | 585   | 260 | 0       | 5,586    | 0      | 11.18            |
| AMT1200       | 4,107  | 0      | 503   | 293   | 0     | 314   | 84  | 0       | 1,802    | 0      | 3.55             |
| SW300         | 0  | 0      | 262   | 153   | 0     | 0     | 0   | 0       | 0        | 0      | 0.21             |
| FR1200        | 0  | 0      | 299   | 0     | 0     | 149   | 199 | 0       | 2,142    | 3,835  | 3.31             |
| FR6000        | 13,156   | 13,962 | 3,107 | 0     | 2,071 | 115   | 153 | 4,756   | 0        | 0      | 18.66            |
| TOTALS        | 24,901   | 19,781 | 5,730 | 1,356 | 2,071 | 1,163 | 696 | 4,756   | 9,529    | 3,835  | 36.91            |

| TRAIN<br>TYPE | ANNUAL SO <sub>x</sub> EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE D |        |       |     |       |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|---|--------|-------|-----|-------|-----|-----|---------|----------|--------|------------------|
|               | A-SAC   | A-SJ   | B     | C/D | JIT   | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,230   | 937    | 251   | 146 | 0     | 94  | 42  | 0       | 900      | 0      | 1.80             |
| AMT1200       | 410   | 0      | 50    | 29  | 0     | 31  | 8   | 0       | 180      | 0      | 0.35             |
| SW300         | 0   | 0      | 25    | 15  | 0     | 0   | 0   | 0       | 0        | 0      | 0.02             |
| FR1200        | 0   | 0      | 25    | 0   | 0     | 13  | 17  | 0       | 180      | 322    | 0.28             |
| FR6000        | 9,186   | 9,749  | 2,169 | 0   | 1,446 | 80  | 107 | 3,321   | 0        | 0      | 13.03            |
| TOTALS        | 10,827  | 10,686 | 2,521 | 190 | 1,446 | 218 | 174 | 3,321   | 1,260    | 322    | 15.48            |

TABLE N-57. RAIL TRAFFIC EMISSIONS FOR ALTERNATIVE D

| TRAIN<br>TYPE | ANNUAL PM10 EMISSIONS (POUNDS/YEAR) BY RAIL SEGMENT, ALTERNATIVE D |       |       |     |     |     |     |         |          |        | TOTAL<br>TONS/YR |
|---------------|--|-------|-------|-----|-----|-----|-----|---------|----------|--------|------------------|
|               | A-SAC  | A-SJ  | B     | C/D | JIT | E   | F   | LATHROP | SAN JOSE | GILROY |                  |
| AMT600        | 1,845  | 1,406 | 377   | 220 | 0   | 141 | 63  | 0       | 1,350    | 0      | 2.70             |
| AMT1200       | 649  | 0     | 80    | 46  | 0   | 50  | 13  | 0       | 285      | 0      | 0.56             |
| SW300         | 0  | 0     | 48    | 28  | 0   | 0   | 0   | 0       | 0        | 0      | 0.04             |
| FR1200        | 0  | 0     | 40    | 0   | 0   | 20  | 27  | 0       | 285      | 510    | 0.44             |
| FR6000        | 2,266  | 2,405 | 535   | 0   | 357 | 20  | 26  | 819     | 0        | 0      | 3.21             |
| TOTALS        | 4,761  | 3,811 | 1,079 | 294 | 357 | 231 | 129 | 819     | 1,919    | 510    | 6.96             |

Notes: ROG = reactive organic compounds

NOx = nitrogen oxides

CO = carbon monoxide

SOx = sulfur oxides

PM10 = inhalable particulate matter

A-SAC = rail segment from Stege (Richmond) to El Mira (Solano County)

A-SJ = rail segment from Stege (Richmond) to San Joaquin County line via Antioch

B = rail segment between Stege (Richmond) and the Desert Yard (Oakland)

C/D = main line rail segment through the Desert Yard and West Oakland yard to Jack London Square

JIT = West Oakland rail yard and Joint Intermodal Terminal rail segments

E = rail segment through Jack London Square

F = rail segment from Jack London Square to Fruitvale

LATHROP = rail segment from Fruitvale to San Joaquin County line via Livermore

SAN JOSE = rail segment from Fruitvale to the San Jose area

GILROY = rail segment from Fruitvale to the San Benito County Line

TABLE N-58. EMISSIONS FROM PORT OF OAKLAND RAIL TRAFFIC

| ALTERNATIVE   | ANNUAL BAY AREA EMISSIONS, TONS/YEAR          |                 |       |                 |                  |
|---------------|---|-----------------|-------|-----------------|------------------|
|               | ROG   | NO <sub>x</sub> | CO    | SO <sub>x</sub> | PM <sub>10</sub> |
| NO ACTION     | 7.74  | 249.44          | 30.91 | 11.63           | 5.94             |
| ALTERNATIVE A | 9.41  | 287.50          | 36.34 | 15.09           | 6.86             |
| ALTERNATIVE B | 8.32  | 261.92          | 32.75 | 12.58           | 6.24             |
| ALTERNATIVE C | 9.58  | 291.53          | 36.91 | 15.48           | 6.96             |
| ALTERNATIVE D | 9.58  | 291.53          | 36.91 | 15.48           | 6.96             |
| .....         |   |                 |       |                 |                  |
|               | NET INCREASE IN BAY AREA EMISSIONS, TONS/YEAR |                 |       |                 |                  |
|               | ROG   | NO <sub>x</sub> | CO    | SO <sub>x</sub> | PM <sub>10</sub> |
| ALTERNATIVE A | 1.66  | 38.06           | 5.44  | 3.46            | 0.92             |
| ALTERNATIVE B | 0.57  | 12.48           | 1.84  | 0.95            | 0.30             |
| ALTERNATIVE C | 1.83  | 42.09           | 6.00  | 3.86            | 1.01             |
| ALTERNATIVE D | 1.83  | 42.09           | 6.00  | 3.86            | 1.01             |

Notes: ROG = reactive organic compounds  
 NO<sub>x</sub> = nitrogen oxides  
 CO = carbon monoxide  
 SO<sub>x</sub> = sulfur oxides  
 PM<sub>10</sub> = inhalable particulate matter

TABLE N-59. PORT OF OAKLAND SHIP CALL PROFILE

| Type of Vessel   | Steam<br>or<br>Diesel | Vessel<br>Tonnage<br>(1,000<br>DWT) | Percent<br>of 1991<br>Vessel<br>Calls | Percent<br>of 2010<br>Vessel<br>Calls | Mean<br>Hours Moored | 100%<br>Power<br>Fuel Use<br>(gal/hr) |
|--|-----------------------|-------------------------------------|---------------------------------------|---------------------------------------|----------------------|---------------------------------------|
| Container Ships  | Diesel                | 0 - 25                              | 17.8%                                 | 6.3%                                  | 30.6                 | 355                                   |
|  |                       | 25 - 50                             | 37.0%                                 | 41.1%                                 | 30.6                 | 486                                   |
|  |                       | 50 - 75                             | 6.6%                                  | 12.6%                                 | 33.0                 | 649                                   |
|  |                       | 75 - 100                            | 1.9%                                  | 3.2%                                  | 35.4                 | 797                                   |
|  |                       | 100+                                | 0.0%                                  | 0.0%                                  |                      | 960                                   |
|  | Steam                 | 0 - 25                              | 1.2%                                  | 1.2%                                  | 30.6                 | 789                                   |
|  |                       | 25 - 50                             | 7.0%                                  | 7.0%                                  | 30.6                 | 887                                   |
|  |                       | 50 - 75                             | 0.9%                                  | 0.9%                                  | 30.6                 | 1,008                                 |
|  |                       | 75 - 100                            | 0.0%                                  | 0.0%                                  |                      | 1,117                                 |
|  |                       | 100+                                | 0.0%                                  | 0.0%                                  |                      | 1,239                                 |
| Tankers &<br>Bulk Carriers                                       | Diesel                | 0 - 25                              | 4.2%                                  | 4.2%                                  | 25.8                 | 2,064                                 |
|  |                       | 25 - 50                             | 5.9%                                  | 5.9%                                  | 45.0                 | 4,194                                 |
|  |                       | 50 - 75                             | 0.7%                                  | 0.7%                                  | 49.8                 | 6,857                                 |
|  |                       | 75 - 100                            | 0.5%                                  | 0.5%                                  | 45.0                 | 9,253                                 |
|  |                       | 100+                                | 0.0%                                  | 0.0%                                  |                      | 11,916                                |
|  | Steam                 | 0 - 25                              | 0.5%                                  | 0.5%                                  | 25.8                 | 789                                   |
|  |                       | 25 - 50                             | 2.8%                                  | 2.8%                                  | 37.8                 | 887                                   |
|  |                       | 50 - 75                             | 0.9%                                  | 0.9%                                  | 49.8                 | 1,008                                 |
|  |                       | 75 - 100                            | 1.4%                                  | 1.4%                                  | 45.0                 | 1,117                                 |
|  |                       | 100+                                | 0.0%                                  | 0.0%                                  |                      | 1,239                                 |
| General Cargo,<br>Vehicle Carriers,<br>RO-RO/Lash,<br>Ocean Tugs | Diesel                | 0 - 25                              | 7.0%                                  | 7.0%                                  | 53.4                 | 355                                   |
|  |                       | 25 - 50                             | 1.9%                                  | 1.9%                                  | 72.6                 | 486                                   |
|  |                       | 50 - 75                             | 1.9%                                  | 1.9%                                  | 72.6                 | 649                                   |
|  |                       | 75 - 100                            | 0.0%                                  | 0.0%                                  |                      | 797                                   |
|  |                       | 100+                                | 0.0%                                  | 0.0%                                  |                      | 960                                   |

Notes: 1991 vessel call data from California Air Resources Board, 1991.  
Future vessel tonnage class estimates assume that diesel  
container ship sizes will increase.



TABLE N-60. EMISSION RATE DATA FOR MARINE VESSELS

| Vessel Type<br>and Power Setting | Port of Oakland            |                               | Emission Rate, Lbs per 1,000 Gallons of Fuel |       |      |       |      |
|----------------------------------|----------------------------|-------------------------------|--|-------|------|-------|------|
|                                  | Time<br>In Mode<br>(hours) | Average<br>Fuel Use<br>Factor | ROG  | NOx   | CO   | SOx   | PM10 |
|                                  |                            |                               |  |       |      |       |      |
| Steam Boiler Propulsion          |                            |                               |  |       |      |       |      |
| Full Throttle                    | 1.7                        | 80%                           | 1.72   | 63.6  | 7.27 | 318   | 56.5 |
| Half Throttle                    | 0.4                        | 40%                           | 0.682  | 55.8  | 3.45 | 318   | 20   |
| One-Third/Slow                   | 0.6                        | 20%                           | 0.682  | 55.8  | 3.45 | 318   | 20   |
| Hotelling                        |                            |                               |  |       |      |       |      |
| Bunker Fuel                      |                            | 10%                           | 3.2  | 36.4  | 0    | 318   | 10   |
| Distillate Oil                   |                            | 10%                           | 3  | 22.2  | 4    | 113.6 | 15   |
| Marine Diesel Propulsion         |                            |                               |  |       |      |       |      |
| Full Throttle                    | 1.7                        | 80%                           | 24   | 550   | 61   | 125.6 | 33   |
| Half Throttle                    | 0.4                        | 40%                           | 24   | 550   | 61   | 125.6 | 33   |
| One-Third/Slow                   | 0.6                        | 20%                           | 24   | 550   | 61   | 125.6 | 33   |
|                                  |                            |                               |  |       |      |       |      |
|                                  |                            |                               | Emission Rate, Pounds per Hour of Use        |       |      |       |      |
|                                  |                            |                               |  |       |      |       |      |
| Diesel Generators                |                            |                               | ROG  | NOx   | CO   | SOx   | PM10 |
|                                  |                            |                               |  |       |      |       |      |
| 500 kW                           |                            |                               | 0.49   | 15.43 | 3.53 | 1.08  | 0.36 |

Notes: Fuel sulfur content assumed to be 2% for bunker fuels, 0.8% for marine diesel and distillate fuels, and 0.2% for diesel generator fuels.  
 About 80% of steam ship hotelling uses distillate fuels, 20% uses bunker fuels.  
 The typical generator size for marine diesel vessels is 500 kW.  
 Emission rates for diesel generators based on AP-42, Supplement F, section 3.4.

TABLE N-61. MARINE VESSEL EMISSIONS FOR THE NO ACTION ALTERNATIVE

| Type of Vessel   | Steam<br>or<br>Diesel | Vessel<br>Tonnage<br>(1,000<br>DWT) | Annual<br>Ship<br>Calls | No Action Alternative<br>Annual Bay Area Emissions, Tons/Year |         |       |       |       |
|--|-----------------------|-------------------------------------|-------------------------|---|---------|-------|-------|-------|
|  |                       |                                     |                         | ROG   | NOx     | CO    | SOx   | PM10  |
| Container Ships  | Diesel                | 0 - 25                              | 67                      | 1.43  | 37.27   | 6.00  | 6.01  | 1.65  |
|  |                       | 25 - 50                             | 433                     | 11.50   | 292.05  | 44.42 | 50.53 | 13.76 |
|  |                       | 50 - 75                             | 133                     | 4.46  | 111.72  | 16.38 | 20.16 | 5.46  |
|  |                       | 75 - 100                            | 33                      | 1.32  | 32.74   | 4.69  | 6.05  | 1.63  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  | Steam                 | 0 - 25                              | 12                      | 0.07  | 1.33    | 0.15  | 7.18  | 0.98  |
|  |                       | 25 - 50                             | 74                      | 0.47  | 9.22    | 1.03  | 49.75 | 6.82  |
|  |                       | 50 - 75                             | 10                      | 0.07  | 1.42    | 0.16  | 7.64  | 1.05  |
|  |                       | 75 - 100                            | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| Tankers &<br>Bulk Carriers                                       | Diesel                | 0 - 25                              | 44                      | 3.85  | 90.68   | 11.09 | 19.32 | 5.12  |
|  |                       | 25 - 50                             | 62                      | 10.91   | 256.07  | 30.93 | 55.07 | 14.57 |
|  |                       | 50 - 75                             | 7                       | 1.97  | 45.98   | 5.42  | 10.08 | 2.66  |
|  |                       | 75 - 100                            | 5                       | 1.88  | 43.47   | 5.03  | 9.65  | 2.54  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  | Steam                 | 0 - 25                              | 5                       | 0.03  | 0.53    | 0.06  | 2.84  | 0.40  |
|  |                       | 25 - 50                             | 30                      | 0.22  | 3.98    | 0.45  | 21.65 | 2.90  |
|  |                       | 50 - 75                             | 10                      | 0.10  | 1.66    | 0.19  | 9.13  | 1.18  |
|  |                       | 75 - 100                            | 15                      | 0.16  | 2.65    | 0.30  | 14.56 | 1.91  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| General Cargo,<br>Vehicle Carriers,<br>RO-RO/Lash,<br>Ocean Tugs | Diesel                | 0 - 25                              | 74                      | 1.99  | 54.19   | 9.60  | 7.55  | 2.13  |
|  |                       | 25 - 50                             | 20                      | 0.73  | 19.97   | 3.53  | 2.79  | 0.79  |
|  |                       | 50 - 75                             | 20                      | 0.86  | 22.91   | 3.86  | 3.46  | 0.96  |
|  |                       | 75 - 100                            | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| Container Ships  |                       |                                     | 762                     | 19.3  | 485.8   | 72.8  | 147.3 | 31.4  |
| Bulk Carriers  |                       |                                     | 178                     | 19.1  | 445.0   | 53.5  | 142.3 | 31.3  |
| General Cargo  |                       |                                     | 114                     | 3.6   | 97.1    | 17.0  | 13.8  | 3.9   |
| -----  |                       |                                     | -----                   | -----   | -----   | ----- | ----- | ----- |
| Total  |                       |                                     | 1,054                   | 42.0  | 1,027.8 | 143.3 | 303.4 | 66.5  |

TABLE N-62. MARINE VESSEL EMISSIONS FOR ALTERNATIVE A

| Type of Vessel   | Steam<br>or<br>Diesel | Vessel<br>Tonnage<br>(1,000<br>DWT) | Annual<br>Ship<br>Calls | Alternative A<br>Annual Bay Area Emissions, Tons/Year |         |       |       |       |
|--|-----------------------|-------------------------------------|-------------------------|---|---------|-------|-------|-------|
|  |                       |                                     |                         | ROG   | NOx     | CO    | SOx   | PM10  |
| Container Ships  | Diesel                | 0 - 25                              | 104                     | 2.22  | 57.86   | 9.31  | 9.33  | 2.57  |
|  |                       | 25 - 50                             | 673                     | 17.87   | 453.93  | 69.04 | 78.54 | 21.39 |
|  |                       | 50 - 75                             | 207                     | 6.94  | 173.89  | 25.49 | 31.38 | 8.50  |
|  |                       | 75 - 100                            | 52                      | 2.08  | 51.59   | 7.39  | 9.54  | 2.57  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  | Steam                 | 0 - 25                              | 19                      | 0.11  | 2.11    | 0.24  | 11.36 | 1.56  |
|  |                       | 25 - 50                             | 115                     | 0.73  | 14.32   | 1.61  | 77.31 | 10.59 |
|  |                       | 50 - 75                             | 15                      | 0.11  | 2.12    | 0.24  | 11.46 | 1.57  |
|  |                       | 75 - 100                            | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| Tankers &<br>Bulk Carriers                                       | Diesel                | 0 - 25                              | 69                      | 6.04  | 142.20  | 17.39 | 30.30 | 8.03  |
|  |                       | 25 - 50                             | 96                      | 16.89   | 396.50  | 47.90 | 85.28 | 22.56 |
|  |                       | 50 - 75                             | 12                      | 3.38  | 78.83   | 9.29  | 17.27 | 4.56  |
|  |                       | 75 - 100                            | 8                       | 3.00  | 69.55   | 8.04  | 15.44 | 4.07  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  | Steam                 | 0 - 25                              | 8                       | 0.04  | 0.85    | 0.09  | 4.55  | 0.63  |
|  |                       | 25 - 50                             | 46                      | 0.34  | 6.10    | 0.69  | 33.19 | 4.44  |
|  |                       | 50 - 75                             | 15                      | 0.15  | 2.49    | 0.28  | 13.70 | 1.77  |
|  |                       | 75 - 100                            | 23                      | 0.24  | 4.07    | 0.46  | 22.33 | 2.93  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| General Cargo,<br>Vehicle Carriers,<br>RO-RO/Lash,<br>Ocean Tugs | Diesel                | 0 - 25                              | 115                     | 3.10  | 84.21   | 14.92 | 11.74 | 3.31  |
|  |                       | 25 - 50                             | 31                      | 1.14  | 30.96   | 5.48  | 4.32  | 1.22  |
|  |                       | 50 - 75                             | 31                      | 1.34  | 35.51   | 5.98  | 5.36  | 1.49  |
|  |                       | 75 - 100                            | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| Container Ships  |                       |                                     | 1,185                   | 30.1  | 755.8   | 113.3 | 228.9 | 48.8  |
| Bulk Carriers  |                       |                                     | 277                     | 30.1  | 700.6   | 84.1  | 222.1 | 49.0  |
| General Cargo  |                       |                                     | 177                     | 5.6   | 150.7   | 26.4  | 21.4  | 6.0   |
| -----  |                       |                                     | -----                   | -----   | -----   | ----- | ----- | ----- |
| Total  |                       |                                     | 1,639                   | 65.7  | 1,607.1 | 223.8 | 472.4 | 103.8 |

TABLE N-63. MARINE VESSEL EMISSIONS FOR ALTERNATIVE B

| Type of Vessel   | Steam<br>or<br>Diesel | Vessel<br>Tonnage<br>(1,000<br>DWT) | Annual<br>Ship<br>Calls | Alternative B<br>Annual Bay Area Emissions, Tons/Year |         |       |       |       |
|--|-----------------------|-------------------------------------|-------------------------|---|---------|-------|-------|-------|
|  |                       |                                     |                         | ROG   | NOx     | CO    | SOx   | PM10  |
| Container Ships  | Diesel                | 0 - 25                              | 84                      | 1.80  | 46.73   | 7.52  | 7.54  | 2.07  |
|  |                       | 25 - 50                             | 545                     | 14.47   | 367.60  | 55.91 | 63.60 | 17.32 |
|  |                       | 50 - 75                             | 168                     | 5.64  | 141.13  | 20.69 | 25.47 | 6.89  |
|  |                       | 75 - 100                            | 42                      | 1.68  | 41.67   | 5.97  | 7.70  | 2.08  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  | Steam                 | 0 - 25                              | 16                      | 0.09  | 1.77    | 0.20  | 9.57  | 1.31  |
|  |                       | 25 - 50                             | 93                      | 0.59  | 11.58   | 1.30  | 62.52 | 8.57  |
|  |                       | 50 - 75                             | 12                      | 0.09  | 1.70    | 0.19  | 9.17  | 1.26  |
|  |                       | 75 - 100                            | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| Tankers &<br>Bulk Carriers                                       | Diesel                | 0 - 25                              | 56                      | 4.90  | 115.41  | 14.11 | 24.59 | 6.51  |
|  |                       | 25 - 50                             | 78                      | 13.73   | 322.16  | 38.92 | 69.29 | 18.33 |
|  |                       | 50 - 75                             | 9                       | 2.54  | 59.12   | 6.96  | 12.95 | 3.42  |
|  |                       | 75 - 100                            | 6                       | 2.25  | 52.16   | 6.03  | 11.58 | 3.05  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  | Steam                 | 0 - 25                              | 6                       | 0.03  | 0.64    | 0.07  | 3.41  | 0.48  |
|  |                       | 25 - 50                             | 37                      | 0.27  | 4.90    | 0.55  | 26.70 | 3.57  |
|  |                       | 50 - 75                             | 12                      | 0.12  | 1.99    | 0.23  | 10.96 | 1.42  |
|  |                       | 75 - 100                            | 19                      | 0.20  | 3.36    | 0.38  | 18.44 | 2.42  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| General Cargo,<br>Vehicle Carriers,<br>RO-RO/Lash,<br>Ocean Tugs | Diesel                | 0 - 25                              | 93                      | 2.50  | 68.10   | 12.06 | 9.49  | 2.68  |
|  |                       | 25 - 50                             | 25                      | 0.92  | 24.96   | 4.42  | 3.49  | 0.98  |
|  |                       | 50 - 75                             | 25                      | 1.08  | 28.64   | 4.82  | 4.33  | 1.20  |
|  |                       | 75 - 100                            | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| Container Ships  |                       |                                     | 960                     | 24.4  | 612.2   | 91.8  | 185.6 | 39.5  |
| Bulk Carriers  |                       |                                     | 223                     | 24.0  | 559.7   | 67.3  | 177.9 | 39.2  |
| General Cargo  |                       |                                     | 143                     | 4.5   | 121.7   | 21.3  | 17.3  | 4.9   |
| -----  |                       |                                     | -----                   | -----   | -----   | ----- | ----- | ----- |
| Total  |                       |                                     | 1,326                   | 52.9  | 1,293.6 | 180.3 | 380.8 | 83.6  |



TABLE N-64. MARINE VESSEL EMISSIONS FOR ALTERNATIVE C

| Type of Vessel   | Steam<br>or<br>Diesel | Vessel<br>Tonnage<br>(1,000<br>DWT) | Annual<br>Ship<br>Calls | Alternative C<br>Annual Bay Area Emissions, Tons/Year |         |       |       |       |
|--|-----------------------|-------------------------------------|-------------------------|---|---------|-------|-------|-------|
|  |                       |                                     |                         | ROG   | NOx     | CO    | SOx   | PM10  |
| Container Ships  | Diesel                | 0 - 25                              | 108                     | 2.31  | 60.08   | 9.66  | 9.69  | 2.67  |
|  |                       | 25 - 50                             | 700                     | 18.58   | 472.14  | 71.81 | 81.69 | 22.25 |
|  |                       | 50 - 75                             | 215                     | 7.21  | 180.61  | 26.47 | 32.59 | 8.82  |
|  |                       | 75 - 100                            | 54                      | 2.16  | 53.57   | 7.68  | 9.90  | 2.67  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  | Steam                 | 0 - 25                              | 20                      | 0.11  | 2.22    | 0.25  | 11.96 | 1.64  |
|  |                       | 25 - 50                             | 120                     | 0.76  | 14.95   | 1.68  | 80.67 | 11.05 |
|  |                       | 50 - 75                             | 16                      | 0.12  | 2.26    | 0.25  | 12.22 | 1.68  |
|  |                       | 75 - 100                            | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| Tankers &<br>Bulk Carriers                                       | Diesel                | 0 - 25                              | 72                      | 6.30  | 148.38  | 18.14 | 31.62 | 8.38  |
|  |                       | 25 - 50                             | 100                     | 17.60   | 413.02  | 49.89 | 88.83 | 23.50 |
|  |                       | 50 - 75                             | 12                      | 3.38  | 78.83   | 9.29  | 17.27 | 4.56  |
|  |                       | 75 - 100                            | 8                       | 3.00  | 69.55   | 8.04  | 15.44 | 4.07  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  | Steam                 | 0 - 25                              | 8                       | 0.04  | 0.85    | 0.09  | 4.55  | 0.63  |
|  |                       | 25 - 50                             | 48                      | 0.35  | 6.36    | 0.72  | 34.64 | 4.64  |
|  |                       | 50 - 75                             | 16                      | 0.16  | 2.65    | 0.30  | 14.61 | 1.89  |
|  |                       | 75 - 100                            | 24                      | 0.25  | 4.25    | 0.48  | 23.30 | 3.05  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| General Cargo,<br>Vehicle Carriers,<br>RO-RO/Lash,<br>Ocean Tugs | Diesel                | 0 - 25                              | 120                     | 3.23  | 87.87   | 15.56 | 12.25 | 3.45  |
|  |                       | 25 - 50                             | 32                      | 1.18  | 31.95   | 5.65  | 4.46  | 1.26  |
|  |                       | 50 - 75                             | 32                      | 1.38  | 36.66   | 6.18  | 5.54  | 1.54  |
|  |                       | 75 - 100                            | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| Container Ships  |                       |                                     | 1,233                   | 31.3  | 785.8   | 117.8 | 238.7 | 50.8  |
| Bulk Carriers  |                       |                                     | 288                     | 31.1  | 723.9   | 87.0  | 230.3 | 50.7  |
| General Cargo  |                       |                                     | 184                     | 5.8   | 156.5   | 27.4  | 22.3  | 6.3   |
| -----  |                       |                                     | -----                   | -----   | -----   | ----- | ----- | ----- |
| Total  |                       |                                     | 1,705                   | 68.1  | 1,666.2 | 232.2 | 491.2 | 107.8 |

TABLE N-65. MARINE VESSEL EMISSIONS FOR ALTERNATIVE D

| Type of Vessel   | Steam<br>or<br>Diesel | Vessel<br>Tonnage<br>(1,000<br>DWT) | Annual<br>Ship<br>Calls | Alternative D<br>Annual Bay Area Emissions, Tons/Year |         |       |       |       |
|--|-----------------------|-------------------------------------|-------------------------|---|---------|-------|-------|-------|
|  |                       |                                     |                         | ROG   | NOx     | CO    | SOx   | PM10  |
| Container Ships  | Diesel                | 0 - 25                              | 106                     | 2.27  | 58.97   | 9.49  | 9.51  | 2.62  |
|  |                       | 25 - 50                             | 690                     | 18.32   | 465.40  | 70.79 | 80.53 | 21.93 |
|  |                       | 50 - 75                             | 212                     | 7.11  | 178.09  | 26.10 | 32.14 | 8.70  |
|  |                       | 75 - 100                            | 53                      | 2.12  | 52.58   | 7.53  | 9.72  | 2.62  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  | Steam                 | 0 - 25                              | 20                      | 0.11  | 2.22    | 0.25  | 11.96 | 1.64  |
|  |                       | 25 - 50                             | 118                     | 0.75  | 14.70   | 1.65  | 79.32 | 10.87 |
|  |                       | 50 - 75                             | 16                      | 0.12  | 2.26    | 0.25  | 12.22 | 1.68  |
|  |                       | 75 - 100                            | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| Tankers &<br>Bulk Carriers                                       | Diesel                | 0 - 25                              | 71                      | 6.21  | 146.32  | 17.89 | 31.18 | 8.26  |
|  |                       | 25 - 50                             | 98                      | 17.25   | 404.76  | 48.90 | 87.05 | 23.03 |
|  |                       | 50 - 75                             | 12                      | 3.38  | 78.83   | 9.29  | 17.27 | 4.56  |
|  |                       | 75 - 100                            | 8                       | 3.00  | 69.55   | 8.04  | 15.44 | 4.07  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  | Steam                 | 0 - 25                              | 8                       | 0.04  | 0.85    | 0.09  | 4.55  | 0.63  |
|  |                       | 25 - 50                             | 47                      | 0.35  | 6.23    | 0.70  | 33.91 | 4.54  |
|  |                       | 50 - 75                             | 16                      | 0.16  | 2.65    | 0.30  | 14.61 | 1.89  |
|  |                       | 75 - 100                            | 24                      | 0.25  | 4.25    | 0.48  | 23.30 | 3.05  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| General Cargo,<br>Vehicle Carriers,<br>RO-RO/Lash,<br>Ocean Tugs | Diesel                | 0 - 25                              | 118                     | 3.18  | 86.41   | 15.30 | 12.05 | 3.40  |
|  |                       | 25 - 50                             | 31                      | 1.14  | 30.96   | 5.48  | 4.32  | 1.22  |
|  |                       | 50 - 75                             | 31                      | 1.34  | 35.51   | 5.98  | 5.36  | 1.49  |
|  |                       | 75 - 100                            | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
|  |                       | 100+                                | 0                       | 0.00  | 0.00    | 0.00  | 0.00  | 0.00  |
| Container Ships  |                       |                                     | 1,215                   | 30.8  | 774.2   | 116.1 | 235.4 | 50.1  |
| Bulk Carriers  |                       |                                     | 284                     | 30.6  | 713.4   | 85.7  | 227.3 | 50.0  |
| General Cargo  |                       |                                     | 180                     | 5.7   | 152.9   | 26.8  | 21.7  | 6.1   |
| -----  |                       |                                     | -----                   | -----   | -----   | ----- | ----- | ----- |
| Total  |                       |                                     | 1,679                   | 67.1  | 1,640.5 | 228.5 | 484.5 | 106.2 |

TABLE N-66. SUMMARY OF MARINE VESSEL EMISSION ESTIMATES

| Alternative   | Annual<br>Ship<br>Calls | Annual Bay Area Emissions, Tons/Year          |         |       |       |       |
|---------------|-------------------------|---|---------|-------|-------|-------|
|               |                         | ROG   | NOx     | CO    | SOx   | PM10  |
| No Action     | 1,054                   | 42.0  | 1,027.8 | 143.3 | 303.4 | 66.5  |
| Alternative A | 1,639                   | 65.7  | 1,607.1 | 223.8 | 472.4 | 103.8 |
| Alternative B | 1,326                   | 52.9  | 1,293.6 | 180.3 | 380.8 | 83.6  |
| Alternative C | 1,705                   | 68.1  | 1,666.2 | 232.2 | 491.2 | 107.8 |
| Alternative D | 1,679                   | 67.1  | 1,640.5 | 228.5 | 484.5 | 106.2 |
| -----         |                         |   |         |       |       |       |
|               |                         | Net Increase in Bay Area Emissions, Tons/Year |         |       |       |       |
|               |                         | ROG   | NOx     | CO    | SOx   | PM10  |
| Alternative A |                         | 23.7  | 579.2   | 80.5  | 169.0 | 37.3  |
| Alternative B |                         | 10.9  | 265.8   | 37.1  | 77.4  | 17.1  |
| Alternative C |                         | 26.1  | 638.4   | 88.9  | 187.8 | 41.2  |
| Alternative D |                         | 25.1  | 612.7   | 85.2  | 181.0 | 39.7  |



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